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THE SIXTH ROCHESTER CONFERENCE ON
COHERENCE AND QUANTUM OPTICS

J.H. EBERLY, L. MANDEL AND E. WOLF
PRINCIPAL INVESTIGATORS

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FINAL REPORT

GRANT No. AFOSR-89-0154
NOVEMBER 1988 - MAY 1990
NOVEMBER 1990

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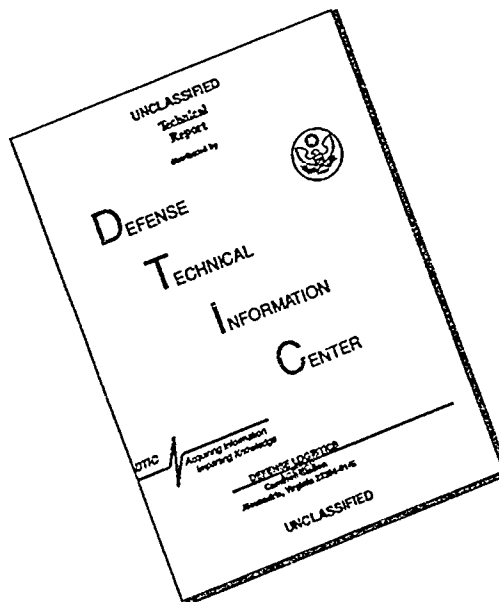
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THE UNIVERSITY OF ROCHESTER
DEPARTMENT OF PHYSICS AND ASTRONOMY
ROCHESTER , NEW YORK

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| 1. AGENCY USE ONLY (Leave blank) | 2. REPORT DATE NOVEMBER 1990 | 3. REPORT TYPE AND DATES COVERED FINAL / NOV 88 - 31 OCT 90 | | |
| 4. TITLE AND SUBTITLE THE SIXTH ROCHESTER CONFERENCE ON COHERENCE AND QUANTUM OPTICS | | 5. FUNDING NUMBERS GRANT NO. AFOSR-89-0154 | | |
| 6. AUTHOR(S) J.H. Eberly, L. Mandel and E. Wolf, Editors | | | | |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) University of Rochester Dept. of Physics and Astronomy Rochester, New York 14627 | | 8. PERFORMING ORGANIZATION REPORT NUMBER | | |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Air Force Office of Scientific Research Bolling AFB Washington, D.C. 20332-6448 | | 10. SPONSORING/MONITORING AGENCY REPORT NUMBER | | |
| 11. SUPPLEMENTARY NOTES This Conference was also supported indirectly by the Optical Society of America, the American Physical Society and by the University of Rochester | | | | |
| 12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited. | | 12b. DISTRIBUTION CODE | | |
| 13. ABSTRACT (Maximum 200 words) The Sixth Rochester Conference on Coherence and Quantum Optics was held on the campus of the University of Rochester during June 26-28, 1989. There were 396 registrants from 26 countries. 252 scientific papers, including 31 invited papers, were presented at 45 different sessions, and there were also 22 poster papers. The full scientific report on the Conference is in the form of a book of Proceedings, published by Plenum, New York, under the title Coherence and Quantum Optics VI, edited by the three principal investigators. This report is therefore in the form of a brief summary. | | | | |
| 14. SUBJECT TERMS Conference Optical Coherence Quantum Optics | | 15. NUMBER OF PAGES 19 | | |
| | | 16. PRICE CODE | | |
| 17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED | 18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED | 19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED | 20. LIMITATION OF ABSTRACT SAR | |

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18
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Abstract

The Sixth Rochester Conference on Coherence and Quantum Optics was held on the campus of the University of Rochester during June 26-28, 1989. There were 396 registrants from 26 countries. 252 scientific papers, including 31 invited papers, were presented at 45 different sessions, and there were also 22 poster papers. The full scientific report on the Conference is in the form of a book of Proceedings, published by Plenum under the title Coherence and Quantum Optics VI, edited by the three principal investigators. This report is therefore in the form of a brief summary.

1. Introduction

This is the Final Report on the Sixth Rochester Conference on Coherence and Quantum Optics, which was held on the campus of the University of Rochester during June 26-28, 1989, and was sponsored by the Air Force Office of Scientific Research, by the Optical Society of America, by the American Physical Society and by the University of Rochester.

The popularity of this series of Conferences is indicated by the number of participants, which has grown steadily over the years. The Sixth Conference was the largest. There were 396 registrants from 26 countries. 252 scientific papers, including 31 invited papers and 7 postdeadline papers were presented, which required 45 separate sessions. In addition, there were 22 poster papers.

The Conference reception and dinner were held on the evening of June 27, 1989, with Professor Peter Franken of the University of Arizona as the featured after-dinner speaker.

The full technical report on the Conference is contained in the Proceedings of the Conference, edited by J.H. Eberly, L. Mandel and E. Wolf, which have just been published by Plenum, under the title Coherence and Quantum Optics VI. This book is 1328 + xix pages long. It was meant to have appeared in 1989, but the publisher experienced delays. Copies of the book will be submitted as soon as we receive them.

This report is therefore in the form of a brief summary. The Conference Program is attached as Appendix A, and a list of registrants forms Appendix B.

2. Brief Review

The Conference was organized with the help of a Program Committee consisting of the following:

F.T. Arecchi (Istit. Naz. d'Ott., Firenze)

N. Bloembergen (Harvard U.)

C. Cohen-Tannoudji (Ecole Normale Supérieure)

H. Haken (U. Stuttgart)

S. Haroche (Yale and Ecole Normale Supérieure)

A.L. Schawlow (Stanford U.)

C.R. Stroud (U. of Rochester)

D.F. Walls (U. of Auckland)

H. Walther (Max-Planck-Inst. and U. Munchen)

J.H. Eberly

L. Mandel

E. Wolf

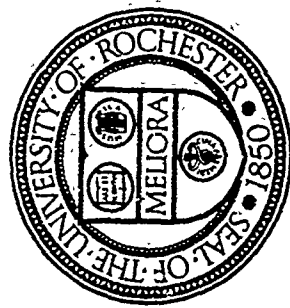
} Joint Secretaries (U. of Rochester)

Among the topics that generated particularly great interest were Quantum Interference, Squeezing and Noise Reduction, Atom Trapping and Cooling, Instabilities and Chaos, Atom-Field Interactions, and Fundamental Tests of Quantum Mechanics. Some of these took up four or five different sessions.

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University of Rochester
Department of Physics & Astronomy



Sixth Rochester Conference on

Coherence and Quantum Optics

June 26-28, 1989

Program

PROGRAM COMMITTEE

F.T. Arecchi (Istit. Naz. d'Ott., Firenze)
N. Bloembergen (Harvard U.)
C. Cohen-Tannoudji (École Normale Supérieure)
H. Haken (U. Stuttgart)
S. Haroche (Yale and École Normale Supérieure)
A.L. Schawlow (Stanford U.)
C.R. Stroud, Jr. (U. of Rochester)
D.F. Walls (U. of Auckland)
H. Walther (Max-Planck-Inst. and U. München)
J.H. Eberly } Joint Secretaries (U. of Rochester)
L. Mandel }
E. Wolf }

Each conference session is identified by a three-letter code, of which the first capital letter signifies the day (Monday, Tuesday, Wednesday), the second capital letter signifies the auditorium (A Hubble, B Lander, C Hoyt, D Lattimore 201), and the third lower case letter designates the quarter of the day (a first, b second, c third, d fourth) in which the session is held.

Invited papers are indicated by *.

There will be a post-deadline session WDd on Wednesday afternoon. A poster session will be held in the May Room of Wilson Commons from 10:30 a.m. to 4:00 p.m. Wednesday.

The Conference Reception and Dinner are scheduled for Tuesday evening. Reception 6:45 p.m., Dinner 7:30 p.m.

A movie entitled "A Fish Called Wanda" will be shown on Monday evening at 8:00 p.m. in the Hubble Auditorium.

Sponsored by the Air Force Office of Scientific Research
the Optical Society of America
the American Physical Society
the University of Rochester

MONDAY, JUNE 26, 1989

LATTIMORE 201

HOYT HALL

LANDER

HUBBLE

OPENING SESSION

8:30 a.m.

Welcoming Remarks

DENNIS O'BRIEN, President
University of Rochester

MAa

QUANTUM INTERFERENCE

MBa

PHASE OF LIGHT

Chairman: B.J. THOMPSON

Chairman: R.J. GLAUBER

9:00 a.m.

MAa1 *RODNEY LOUDON (Essex U.)

"Spatially Localized One- and Two-Photon Interference"

MBa1 *R. CHIAO (U.C., Berkeley)

"Optical Manifestations of Berry's Topological Phase: Classical and Quantum Aspects"

9:15 a.m.

9:30 a.m.

MAa2 *DAVID W. KEITH, M.L. SCHATTEBURG,

HENRY I. SMITH and DAVID E. PRITCHARD
(MIT) "Diffraction Gratings for Atom Interferometers"

MBa2 R. SIMON (C.I.T., Madras)

"Geometric Phases in Optics: Some Pedestrian Considerations"

9:45 a.m.

MBa3 CHRISTOPHER C. GERRY (St. Bonavent-

ure U.) "Manifestation of Berry's Phase in Parametric Amplifiers"

10:00 a.m.

MAa3 A. ten WOLDE, L.D. NOORDAM, H.G.

MULLER, A. LAGENDIJK and H.B. van LINDEN
van den HEUVELL (FOM Inst., Amsterdam)
"Observation of Electronic Wave Packets"

MBa4 S.M. BARNETT (Oxford U.), D.T. PEGG

and J.A. VACCARO (Griffith U.)
"Applications of the Optical Phase Operator"

10:15 a.m.

MAa4 JOHN A. YEAZELL, MARK MALLALIEU

and C.R. STROUD, Jr. (U. Rochester)
"The Production and Detection of Spatially
Localized Atomic Electron Wave Packets"

MBa5 AHMET ELCI (U. New Mexico)

"Coherent Scattering of Light in an
Aharonov-Bohm Geometry"

10:30 a.m.

COFFEE BREAK

MONDAY, JUNE 26, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|--|--|--|---|----------------------|--|-----------------------------|
| MAB | LASERS I | MBb | SQUEEZING AND NOISE REDUCTION I | MCb | CAVITY QED I | MDb | ATOM TRAPPING AND COOLING I |
| | Chairman: H. RISKEN | | Chairman: R.E. SLUSHER | | Chairman: H. WALTHER | | Chairman: S. STENHOLM |
| 1:00 a.m. | MAB1 *M.O. SCULLY (U. New Mexico and Max-Planck Inst.) and M.S. ZUBAIRY (Quaid-I-Azam U.) "Theory of the Correlated Spontaneous Emission Laser" | MBb1 *C.W. GARDINER, A.S. PARKINS (U. Waikato), A.S. LANE (U. Southern California) and D.F. WALLS (U. Auckland) "Atoms and Squeezed Light" | | MCb1 "H.J. KIMBLE, M.G. RAIZEN, R.J. BRECHA, H.J. CARMICHAEL, Y. SHEVY and R.J. THOMPSON (Cal. Tech.) "Dissipative Quantum Dynamics in Cavity Quantum Electrodynamics" | | MDb1 *J. DALIBARD (École Normale Supérieure) "The Limits of Laser Cooling" | |
| 1:15 a.m. | | | | | | | |
| 1:30 a.m. | MAB2 NING LU, SHI-YAO ZHU, G.S. AGARWAL (U. New Mexico) "Comparative Study of Various Quasi-Probability Distributions in Different Models of Correlated-Emission Lasers" | | MBb2 *P.L. KNIGHT (Imperial College) "The Interaction of Squeezed Light with Atoms" | MCb2 B.J. HUGHEY, T.R. GENTILE, D. KLEPPNER (MIT) and T. DUCAS (Wellesley College) "Atom-Photon Interaction Modified by a Microwave Cavity" | | MDb2 P.D. LETT, C.I. WESTBROOK, R.N. WATTS, S.L. ROLSTON, C.E. TANNER, W.D. PHILLIPS (NIST, Gaithersburg), P.L. GOULD (U. Connecticut), H.J. METCALF (SUNY, Stony Brook) "Multilevel Atoms: Cooling below the Doppler Limit" | |
| 1:45 a.m. | MAB3 MARLAN O. SCULLY, SHI-YAO ZHU (U. New Mexico) and ATHANASIOS GAVRIELIDES (Kirtland AFB) "The Degenerate Quantum Beat Laser: Lasing without Inversion" | | | MCb3 F. De MARTINI, M. MARROCCO and D. MURRA (U. Roma) "Strong Photon-Localization in Microcavity Stimulated-Emission" | | MDb3 J. JAVANAINEN and P.L. GOULD (U. Connecticut) "Rectification of the Light Pressure Force Acting on a Three-State Atom" | |
| 2:00 Noon | MAB4 R.J. DALTON (U. Queensland) "Correlated Emission Laser: Coherent Optical Pumping in Three Level Vee Systems Coupled to Two Cavity Modes" | | MBb3 K. WODKIEWICZ (Warsaw: U.) and A. ORLOWSKI (SGGW-AR, Warsaw) "On the Phase-Space Approach to Squeezed Phenomena in Quantum Optics" | MCb4 N. NAYAK, R.K. BULLOUGH, B.V. THOMPSON and G.S. AGARWAL (UMIST) "Exact Quantum Theory of a Rydberg Atom in Cavities of Arbitrary Q at Finite Temperature T, and the ⁸⁵ Rb Atom Maser" | | MDb4 R. GRIMM and J. MLYNEK (ETH, Zürich) "Resonant Light Pressure in Gases: Modifications of Absorption and Dispersion Profiles" | |
| 2:15 p.m. | MAB5 N.B. ABRAHAM and D.E. CHYBA (Bryn Mawr) "Emission Frequency of a Homogeneously Broadened Laser Operating below Threshold" | | MBb4 ARTUR K. EKERT (Oxford U.) and PETER L. KNIGHT (Imperial College) "The Wigner Function of Two-Mode Squeezed States; Free and Dissipative Evolution" | MCb5 JAKUB ZAKRZEWSKI and TOMASZ DOHNALIK (Jagellonian U.) "Hanle Type Resonances in Frequency Dependent Photon Reservoirs" | | MDb5 M.C. de LIGNIE and E.R. ELIEL (U. Leiden) "Coherence Effects in Light-Induced Drift" | |
| 2:30 p.m. | MAB6 NING LU and SHI-YAO ZHU (U. New Mexico) "Quantum Theory of Two-Photon Correlated-Spontaneous-Emission Lasers: Exact Atom-Field Interaction Hamiltonian" | | MBb5 MARTIN WILKENS, MACIEJ LEWENSTEIN and JAN GROCHMALICKI (Polish Acad. of Sciences) "Quantum Noise Reduction in Photodetection Processes" | | | | |
| 2:45 p.m. | LUNCH BREAK | | | | | | |

MONDAY, JUNE 26, 1989

| MAC | HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|--|-----|--|-----|--|-----|---|--|
| | NON-LINEAR AND PARAMETRIC PROCESSES | MBc | SQUEEZING AND NOISE REDUCTION II | MCc | PHASE CONJUGATION AND MIXING | MDc | ATOM TRAPPING AND COOLING II | |
| | Chairman: E. JAKEMAN | | Chairman: D.F. WALLS | | Chairman: I. BIALYNICKI-BIRULA | | Chairman: M.O. SARGENT III | |
| 1:00 p.m. | MAC1 M. WOLINSKY and H.J. CARMICHAEL (U. Texas, Austin) "Photoelectron Counting Statistics for the Degenerate Parametric Oscillator" | | MBc1 'S. REYNAUD, A. HEIDMANN, E. GIACOBINO, C. FABRE (École Normale Supérieure) "A Semiclassical Linear Input Output Transformation for Quantum Fluctuations" | | MCc1 HENK F. ARNOLDUS (Villanova U.) and THOMAS F. GEORGE (SUNY, Buffalo) "Extraordinary Behavior of Atoms near a Phase Conjugator" | | MDc1 'R. BLÜMEL (Max-Planck Inst., Garching) "Noise and Coherence in Strongly Perturbed Rydberg Atoms" | |
| 1:15 p.m. | MAC2 C.D. NABORS and R.L. BYER (Stanford U.) "Monolithic Optical Parametric Oscillators for Quantum Optics" | | | | MCc2 ALEXANDER L. GAETA and ROBERT W. BOYD (U. Rochester) "Quantum Statistical Properties of Optical Phase Conjugation" | | | |
| 1:30 p.m. | MAC3 P.K. ARAVIND (Worcester Polytechnic Inst.) "Measuring the Wigner Angle with a Parametric Amplifier" | | MBc2 S.F. PEREIRA, K.-C. PENG and H.J. KIMBLE (Cal. Tech.) "Squeezed State Generation and QND Detection by Nondegenerate Parametric Down Conversion" | | MCc3 W. KROLIKOWSKI, M. CRONIN-GOLOMB (Tufts U.) and A. BLEDOWSKI, A. KUJAWSKI (Polish Acad. of Sciences) "Temporal Instabilities and Chaos in Photorefractive Four-Wave Mixing" | | MDc2 'W.M. ITANO, J.C. BERGQUIST, F. DIEDRICH and D.J. WINELAND (NIST, Boulder) "Quantum Optics of Single, Trapped Ions" | |
| 1:45 p.m. | MAC4 MICHAEL B. RANKIN, JON P. DAVIS, CHRISTOPHER GIRANDA, MARTIN F. SQUICCIARINI and LLOYD C. BOBB (Naval Air Development Center) "G (2) and the Two-Photon Transition Rate: An Experimental Study" | | MBc3 A.M. KHAZANOV, G.A. KOGANOV (Acad. Sciences USSR, Komsomolsk on Amur), E.P. GORDOV (Acad. of Sciences USSR, Tomsk) "On the Feasibility of Squeezed-State Generation in a Three-Level Atom Laser" | | MCc4 Y.B. BAND, D.F. HELLER and J.S. KRASINSKI (Allied-Signal Inc.) "Spectrum of Three Wave Mixing for Multimode Beams" | | | |
| 1:50 p.m. | MAC5 SURYA P. TEWARI (U. Hyderabad) and S.P. TEWARI (U. Delhi) "A Theory for Second Harmonic Generation in Dense Atomic Vapour" | | MBc4 P. GALATOLA, 'A. LUGIATO, M. VADACCHINO, WANG KAIGE (Torino Politecnico), N.B. ABRAHAM (Bryn Mawr), L.M. NARDUCCI (Drexel U.) "Squeezing in Two-Photon Optical Bistability and Degenerate Four-Wave Mixing" | | MCc5 A. POSTAN and Y. BEN-ARYEH (Redstone Arsenal) "Brillouin Enhanced Reflectivity for Different Intensity Pump Waves" | | MDc3 H. GILHAUS, R. BLATT, W. NEUHAUSER and P.E. TOSCHEK (U. Hamburg) "Photodynamics of a Single Trapped Three-Level Ion" | |
| 2:05 p.m. | | | MBc5 PERRY R. RICE (Miami U.) "Single-Atom Cavity-Enhanced Absorption with Injected Squeezed Vacuum" | | MCc6 W.R. GARRETT, R.C. HART, M.A. MOORE and M.G. PAYNE (Oak Ridge Natl. Lab.) "Saturation Behavior of Parametric Four-Wave Mixing Due to Two-Photon Interference Effect" | | MDc4 M. TRIPPENBACH and J. COOPER (JILA) "Theory of the Slow, Identical Atom Collisions in a Radiation Field" | |
| 2:00 p.m. | COFFEE BREAK | | | | | | | |

MONDAY, JUNE 26, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|---|--|---|--|---------------|---------------|---|
| MAd | LASERS II | MBd | SQUEEZING AND NOISE REDUCTION III | MCd | CAVITY QED II | MDd | COHERENT TRANSIENTS |
| | Chairman: R.W. BOYD | Chairman: M.D. LEVENSON | Chairman: S. HAROCHE | | | | Chairman: S.R. HARTMANN |
| 6:00 p.m. | MAd1 *L.A. LUGIATO (Torino Politecnico), L.M. NARDUCCI, G.-L. OPPO and J.R. TRE-DICCE (Drexel U.) "Spatial Instabilities and Symmetry Breaking in Lasers and Other Optical Systems" | MBd1 HORACE P. YUEN (Northwestern U.) "Efficient Photon Number Detection" | MBd2 M.S. KIM, F.A.M. de OLIVEIRA and P.L. KNIGHT (Imperial College) "Properties of Squeezed Number and Squeezed Thermal States" | MCd1 *P. MEYSTRE (U. Arizona) "Measurements, Dynamics and State Preparation in a Micromaser" | | | MDd1 *J. MLVNEK, M. ROSATZIN and D. SUTER (ETH, Zürich) "Optically Induced Coherent Spin Transients in an Atomic Ground State" |
| 6:15 p.m. | | | | | | | |
| 6:30 p.m. | MAd2 F.T. ARECCHI, R. MEUCCI, M. CIOFINI (Istituto Nazionale di Ottica, Firenze) "Delayed Bifurcations in a CO ₂ Laser with a Slowly Swept Pump" | MBd3 B. HUTTNER and Y. BEN-ARYEH (Technion) "Influence of the Local Oscillator on Homodyne Detection of Squeezed Vacuum" | MCd2 *Y. YAMAMOTO, S. MACHIDA, K. IGETA and K. HORIKOSHI (NTT, Japan) "Enhanced and Inhibited Spontaneous Emission from GaAs Quantum Wells by Modified Vacuum Field Fluctuations" | | | | MDd2 V. FINKELSTEIN and P.R. BERMAN (New York U.) "Stimulated Photon Echo Induced by Broad-Bandwidth Pulses" |
| 6:45 p.m. | MAd3 GEORGE GRAY and RAJARSHI ROY (Georgia Tech.) "Quantum Noise Initiated Mode Hopping in Semiconductor Lasers" | MBd4 ORHAN AYTUR, PREM KUMAR and JIANMING HUANG (Northwestern U.) "Generation of Squeezed Light with an Incoherent Pump" | | | | | MDd3 LAURENCE E. FRIED, YI JING YAN and SHAUL MUKAMEL (U. Rochester) "A Semi-classical Theory of Ultrafast Pump-Probe Spectroscopy: Visualization and Interpretation of Experiment" |
| 7:00 p.m. | MAd4 P. RU, L.M. NARDUCCI (Drexel U.) and L.A. LUGIATO (Torino Politecnico) "Spontaneous Spatial Symmetry Breaking in a Fabry-Perot Laser" | MBd5 STEPHEN C. McCLAIN and LLOYD HILLMAN (Cornell U.) "Understanding Squeezed States and Their Detection Using the Schrodinger Picture" | MCd3 R.J. BRECHA and H.J. CARMICHAEL (Cal. Tech.) "Nonclassical Photon Correlations in Cavity QED" | | | | MDd4 FRANK C. SPANO (U. Rochester) and W.S. WARREN (Princeton U.) "Superradiant Effects in Photon Echo Decays" |
| 7:15 p.m. | MAd5 J.S. UPPAL, L. WEIPING and R.C. HARRISON (Heriot-Watt U.) "Bistable and Sustained Oscillatory Behavior of Coherently Pumped Three-Level cw Laser" | MBd6 V. PERINOVA (Palacky U.), C. SIBILIA, M. BERTOLOTI (U. Roma) and J. PERINA (Palacky U.) "Principal Squeezing in Optical Devices" | MCd4 P. ALSING and H.J. CARMICHAEL (U. Texas, Austin) "Single-Atom Cavity-Enhanced Absorption: Steady-State Field in the Strong-Coupling Limit" | | | | MDd5 A. SZABO and T. MURAMOTO (N.R.C., Canada) "Experimental Test of the Optical Bloch Equations for Solids using Free Induction Decay and Hole-Burning" |
| 7:30 p.m. | MAd6 CHR. TAMM (Physikalisch-Techn. Bundesanstalt, Braunschweig) "Bistability and Optically Induced Switching of Spatial Field Patterns in a Laser" | | MCd5 PHILIP GOLDBERG (Staten Island College) "Optical Correlation Functions and Squeezing in the Jaynes-Cummings Model" | | | | MDd6 SURYA P. TEWARI and M. KRISHNA KUMARI (Hyderabad U.) "Transient Spectrum of Two Level Atoms Interacting with Amplitude Modulated Intense Radiation" |

DINNER

MOVIE SHOW: "A Fish Called Wanda"

TUESDAY, JUNE 27, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 |
|------------|--|--------|---|-----------|--|--|
| TAa | RAMAN SCATTERING | TBa | SQUEEZING AND NOISE REDUCTION IV | TCa | NON-CLASSICAL PHOTON STATISTICS I | INSTABILITIES AND CHAOS I |
| | Chairman: T.W. MOSSBERG | | Chairman: P.D. DRUMMOND | | Chairman: R. LOUDON | Chairman: F.T. ARECCHI |
| 9:00 a.m. | TAa1 M.G. RAYMER (U. Oregon), Z.W. LI and I.A. WALMSLEY (U. Rochester) "Temporal Quantum Fluctuations in Stimulated Raman Scattering" | | TBa1 A. PAUL, M. LINDBERG, S. AN, M. SARGENT III and S.W. KOCH (U. Arizona) "Squeezing in Coherently Pumped Semiconductors" | | TCa1 E. JAKEMAN (R.S.R.E., Malvern) "Generation, Detection and Applications of Sub-Poissonian Light" | TDa1 J.E. BAYFIELD (U. Pittsburgh) "Classically Chaotic Near-Classical Microwave Ionization" |
| 9:15 a.m. | TAa2 MARK HERMANN, SHAM DIXIT and THOMAS KARR (Lawrence Livermore Natl. Lab.) "Theoretical Calculations of Multiple Rotational Level Raman Scattering in Nitrogen" | | TBa2 G. KURIZKI and M. SHAPIRO (Weizmann Inst. of Science) "Detection of Squeezed Light by Coherently Superposed Detector States" | | | |
| 9:30 a.m. | TAa3 R.C. SWANSON, D.C. MacPHERSON and J.L. CARLSTEN (Montana State U.) "Quantum Fluctuations in the Stimulated Raman Scattering Spectrum" | | TBa3 L.A. LUGIATO, P. GALATOLA (Torino Politecnico) and L.M. NARDUCCI (Drexel U.) "Universal Normal-Form Description of Squeezing in Two-Photon Processes" | | TCa2 CHANG ZHU AND CARLTON M. CAVES (U. Southern California) "Photocount Statistics of Continuous-Wave Squeezed Light" | TDa2 R.G. DEVOE, J. HOFFNAGLE, J. ROSENKRANZ, L. REYNA and R.G. BREWER (IBM, San Jose) "Order and Chaos in Trapped Ion Crystals" |
| 9:45 a.m. | TAa4 AHMET ELCI (U. New Mexico) and DAVID DEPATIE (Kirtland AFB) "Bloch Electrons in Coherent Light: A New Type of Renormalization" | | TBa4 JAGDISH RAI, RAMARAO INGUVA and CHARLES M. BOWDEN (Redstone Arsenal) "Wigner Distribution Function for Optical Fields and Its Application to the Detection of Squeezed States" | | TCa3 F.T. ARECCHI, R. MEUCCHI (Istituto Nazionale di Ottica, Firenze) and J.A. ROVERSI (Universidade Estadual, Campinas) "Determination of a Small Photon Number by Statistical Amplifying Transients" | TDa3 A.T. ROSENBERGER, L.A. OROZCO and H.J. KIMBLE (U. Texas, Austin) "Absorptive Optical Bistability in Two-State Atoms" |
| 10:00 a.m. | TAa5 SHAM DIXIT and MARK HERMANN (Lawrence Livermore Natl. Lab.) "Degeneracy Effects in High Intensity Stimulated Rotational Raman Scattering" | | TBa5 C.L. MEHTA (I.I.T., New Delhi) and G.M. SAXENA (National Physical Lab., New Delhi) "Para-Bose Squeezed States" | | TCa4 G.J. MILBURN (U. Queensland) "Preparation of Nonclassical States by Conditional Measurement" | TDa4 M. SCALORA, J.W. HAUS (Rensselaer Polytechnic Inst.) and C.M. BOWDEN (Redstone Arsenal) "Intrinsic Optical Bistability in a Cavity" |
| 10:15 a.m. | TAa6 S.J. KUO and M.G. RAYMER (U. Oregon) "Spatial Quantum Fluctuations in Stimulated Raman Scattering" | | TBa6 R. SIMON (C.I.T., Madras) "A Geometric Representation for Squeezing: the ABCD Law" | | | TDa5 E.J. GALVEZ, L. MOORMAN, B.E. SAUER, P.M. KOCH (SUNY, Stony Brook), D. RICHARDS, J.G. LEOPOLD (Open Univ., U.K.) and R.V. JENSEN (Yale U.) "Microwave Excitation and Ionization of H Atoms at High Scaled Frequencies: Comparisons" |
| 10:30 a.m. | COFFEE BREAK | | | | | |

TUESDAY, JUNE 27, 1989

| | | HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|------------|--|--|---|--------|---|-----------|---|---------------|--|
| TAB | LASERS III | TBB | COHERENCE AND FLUCTUATIONS I | Tcb | RING LASERS | TDb | TWO-PHOTON TRANSITIONS | | |
| | Chairman: H.S. PILLOFF | | Chairman: H.A. FERWERDA | | Chairman: M.G. RAYMER | | Chairman: R.K. BULLOUGH | | |
| 11 00 a.m. | TAB1 F. HAAKE (U. Essen), D.F. WALLS and S. TAN (U. Auckland) "Photon Noise Reduction in Lasers by Suppression of Pump Fluctuations" | TBB1 *F. GORI (U. Roma) "Some Modal Expansions of Partially Coherent Fields" | | | TCb1 GAUTAM VEMURI, L. FABINY and RAJARSHI ROY (Georgia Tech.) "Stochastic Resonance in Bistable Systems" | | TDb1 *J.M. RAIMOND (École Normale Supérieure) "Fluctuations and Dynamics of Rydberg Atom Masers" | | |
| 11 15 a.m. | TAB2 FENGLEI ZHOU, MURRAY SARGENT III and STEPHAN W. KOCH (U. Arizona) "Theory of Sidemode Generation in Semiconductor Lasers Due to Population Pulsation" | | | | TCb2 REETA VYAS and SURENDRA SINGH (U. Arkansas) "Nonlinear Interaction of Modes in the Ring Laser with a Saturable Absorber" | | | | |
| 11 30 a.m. | TAB3 KARL KOCH, STEPHEN H. CHAKMAKJIAN, STEPHANOS PAPADEMETRIOU and C.R. STROUD, Jr. (U. Rochester) "Excited-State Relaxation Dynamics in Dye Lasers" | | TBB2 WEIJIAN WANG and EMIL WOLF (U. Rochester) "Coherence Properties of Light Propagating in a One-Dimensional Lorentz Medium" | | TCb3 T.H. CHYBA and L. MANDEL (U. Rochester) "Investigation of π phase Jumps in a Ring Laser" | | TDb2 T.R. GENTILE, B.J. HUGHEY, D. KLEPPNER (MIT) and T.W. DUCAS (Wellesley College) "An Experimental Study of One- and Two-Photon Rabi Oscillations in Calcium Rydberg States" | | |
| 11 45 a.m. | TAB4 M. MORIN, J.-F. CORMIER and M. PICHE (U. Laval) "Stability Analysis of Active Mode-Locking through Loss Modulation" | | TBB3 DANIEL F.V. JAMES (U. Rochester) "The Spectrum of Radiation from a Moving Source of Any State of Coherence" | | TCb4 G. D'ALESSANDRO, A. POLITI and FT. ARECCHI (Istituto Nazionale di Ottica, Firenze) "Competition between Counter-Propagating Waves in Laser Dynamics" | | TDb3 P.L. GOULD and J. JAVANAINEN (U. Connecticut) "Linear Intensity Dependence of a Two-Photon Transition Rate" | | |
| 12 00 noon | TAB5 E. HERNANDEZ-GARCIA, M. AGUADO and M. SAN MIGUEL (U. de les Illes Balears) "Gain Noise in Dye Lasers" | | TBB4 AVSHALOM GAMLIEL (U. Rochester) "Spectral Changes in Light Propagation from a Class of Partially Coherent Sources" | | TCb5 F.C. CHENG and L. MANDEL (U. Rochester) "Behavior of a Ring Laser with Injected Signal near Threshold" | | TDb4 ZHIDANG CHEN and HELEN FREEDHOFF (York U.) "Radiation Theory for Two-Photon Processes" | | |
| 12 15 p.m. | TAB6 M.J. COLLETT (U. Auckland) "Optical Systems Driven by Inputs with Reduced Intensity Fluctuations: A Possible Master Equation Approach" | | TBB5 HANS M. PEDERSEN (Norwegian Inst. of Technology) "Exact Geometrical Description of Free Space Radiative Energy Transfer for Scalar Wavefields" | | TCb6 L. PESQUERA and R. BLANCO (U. Cantabria) "Gas Ring Lasers with Backscattering: One-Time Statistical Properties and Intensity Correlation Functions" | | TDb5 E.P. GORDOV (USSR Acad. of Sciences, Tomsk), A.M. KHAZANOV and G.A. KOGANOV (USSR Acad. of Sciences, Komsomolsk on Amur) "Nonlinearity and Quantum Noise: Separation of Fluctuations in Liouville Operator: Laser on Two-Photon Transitions" | | |
| 12 30 p.m. | TAB7 STEPHEN H. CHAKMAKJIAN, STEPHANOS PAPADEMETRIOU, KARL KOCH and C.R. STROUD, Jr. (U. Rochester) "Near-Threshold Behavior of Multimode CW Dye Lasers with Amplitude Modulated Pump" | | | | TCb7 GAUTAM VEMURI and RAJARSHI ROY (Georgia Tech.) "Bidirectional Laser with an Injected Signal: A Digital Detector" | | TDb6 A.W. BOONE and S. SWAIN (Queen's U., Belfast) "Theory of the Two-Photon Laser" | | |
| 12 45 p.m. | LUNCH BREAK | | | | | | | | |

TUESDAY, JUNE 27, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|---|---|---------------------------------|-----------|--|---------------|---|
| TAC | LASERS IV | TBC | SQUEEZING AND NOISE REDUCTION V | TCC | NON-CLASSICAL PHOTON STATISTICS II | TDC | CAVITY QED AND INSTABILITIES |
| | Chairman: M. LAX | | Chairman: L.A. LUGIATO | | Chairman: M.C. TEICH | | Chairman: L.M. NARDUCCI |
| 2:00 p.m. | TAc1 GAUTAM VEMURI and RAJARSHI ROY (Georgia Tech.) "Super-Regenerative Laser Receiver" | TBc1 SUNGHYUCK AN and MURRAY SARGENT III (U. Arizona) "Quantum Theory of Multiwave Mixing in a Squeezed Vacuum" | | | TCc1 REETA VYAS and SURENDRA SINGH (U. Arkansas) "Photon Counting Statistics of Squeezed Light" | | TDc1 "R.J. GLAUBER (Harvard U.) "Atoms in Cavities" |
| 2:15 p.m. | TAc2 DIDIER DANGOISSE, DANIEL HENNEQUIN and PIERRE GLORIEUX (U. de Lille) "Non-linear Dynamics of a Laser Containing a Modulated Saturable Absorber" | TBc2 JEFFREY H. SHAPIRO, SCOTT R. SHEPARD and NGAI C. WONG (MIT) "Coherent Phase States and Squeezed Phase States" | | | TCc2 Z. FICEK, R. TANAS and S. KIELICH (A. Mickiewicz U.) "Photon Antibunching in Spontaneous Emission from Two Non-identical Atoms" | | |
| 2:30 p.m. | TAc3 GIAN-LUCA OPPO (Drexel U.) and ANTONIO POLITI (Istituto Nazionale di Ottica, Firenze) "Adiabatic Elimination for Laser Equations via Center Manifold Theory" | TBc3 SENG-TIONG HO, NGAI C. WONG and JEFFREY H. SHAPIRO (MIT) "Self-Focusing Limitations on Squeezed State Generation in Two-Level Media" | | | TCc3 J.G. RARITY and P.R. TAPSTER (R.S.R.E., Malvern) "Spatially Separated Two Color Photons in Fourth Order Interference" | | TDc2 R.L. INGRAHAM, M.E. GOGGIN (New Mexico State U.) and P.W. MILONNI (Los Alamos) "Sensitivity to Initial Conditions in Classical and Quantum Dynamics" |
| 2:45 p.m. | TAc4 S. CHOPRA (I.I.T., New Delhi) and SURANJANA RAI (U. Alabama) "Theory and Photon Statistics of Free Electron Laser" | TBc4 MARK HILLERY (Hunter College, CUNY) "Sum and Difference Squeezing" | | | TCc4 H. RITSCH and P. ZOLLER (U. Innsbruck) "Atomic Systems Driven by Colored Squeezed Light" | | TDc3 B. RITCHIE (Lawrence Livermore Natl. Lab.), C.C. SUNG, Y.Q. LI (U. Alabama) and C.M. BOWDEN (Redstone Arsenal) "Quantum and Classical Chaos in a Driven, Undamped Nonlinear Oscillator" |
| 3:00 p.m. | TAc5 M.W. HAMILTON (U. Strathclyde) "Production of a (Phase) Random-Telegraph Field" | TBc5 S.J.D. PHOENIX (Imperial College) and S.M. BARNETT (Oxford U.) "How Strongly Can We Correlate Two Optical Fields?" | | | TCc5 T.W. HODAPP, M.A. FINN, G.W. GREENLEES (U. Minnesota) and D.A. LEWIS (Iowa State U.) "Observations of Sub-Poisson and Poisson Photon Statistics from the Fluorescence of Individual Barium Atoms" | | TDc4 F.T. ARECCHI, A. LAPUCCI, R. MEUCCI (Istituto Nazionale di Ottica, Firenze), J. A. ROVERSI (U. Estadual, Campinas), P.H. COULLET (U. Nice) "Experimental Characterization of Shil'nikov Chaos by Statistics of Return Times" |
| 3:15 p.m. | TAc6 R.J.C. SPREEUW and J.P. WOERDMAN (U. Leiden) "Photon Band Structure" | TBc6 P.K. ARAVIND and J.J. GONG (Worcester Polytechnic Inst.) "Higher Order Squeezing of Thermal Light through Parametric Amplification" | | | TCc6 F. DE MARTINI, S. DI FONZO and N. LISI (U. Roma) "Transition from Classical, 'Maxwell-Boltzmann', to Quantum, 'Bose-Einstein' Partition Statistics by Stochastic Splitting of Degenerate Light" | | TDc5 M. LE BERRE, E. RESSAYRE and A. TALLET (U. de Paris Sud) "Delayed Feedback Acting as Noise to Induce Phase Transitions" |
| 3:30 p.m. | COFFEE BREAK | | | | | | |

TUESDAY, JUNE 27, 1989

| HUBBLE | | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|--|-----|---|-----|--|-----|--|--|
| TAd | LASERS V | TBd | ATOM-FIELD INTERACTIONS I | Tcd | COOPERATIVE EFFECTS I | Tdd | NONLINEAR OPTICS I | |
| | Chairman: L. ALLEN | | Chairman: H.J. KIMBLE | | Chairman: G.S. AGARWAL | | Chairman: R.J. COOK | |
| 4:00 p.m. | TAd1 MANSOUR MORTAZAVI and SURENDRA SINGH (U. Arkansas) "Continuous and Discontinuous Phase Transitions in the Laser with a Saturable Absorber" | | TBd1 Y. ZHU, A. LEZAMA and T.W. MOSSBERG (U. Oregon) "Polarization of Dressed Atom-Field States in the Transient and Steady State Regimes" | | Tcd1 G.M. PALMA and P.L. KNIGHT (Imperial College) "Correlated Decay of Atoms Interacting with Broadband Squeezed Light" | | TDd1 *SHAUL MUKAMEL and JASPER KNOESTER (U. Rochester) "Polaritons and Retarded Interactions in Nonlinear Optics in Condensed Phases" | |
| 4:15 p.m. | TAd2 V.S. SMIRNOV and A.Z. FAZLIEV (USSR Inst. of Atmospheric Optics) "Intensity Fluctuation Suppression in Injected-Locked Dye Ring Laser" | | | | Tcd2 B.M. GARRAWAY, R.K. BULLOUGH, S.S. HASSAN and R.R. PURI (UMIST) "Atomic Coherent States, Phase Transitions and Squeezing from Rydberg Atoms" | | | |
| 4:30 p.m. | TAd3 J.Y. GAO, Z.H. ZHUANG (Jilin U.) and N.B. ABRAHAM (Bryn Mawr) "Using Modulation Response to Determine Dynamical Parameters and Appropriate Models for Single-Mode Lasers" | | TBd2 DAAN LENSTRA and WILLEM van HAERINGEN (Eindhoven U.) "On the Analogy between Electrons and Light" | | Tcd3 I. BIALYNICKI-BIRULA and ZOFIA BIALYNICKA-BIRULA (Polish Academy of Sciences) "Angular Correlations of Photons" | | TDd2 G.S. AGARWAL (U. Hyderabad) and R.R. PURI (BARC, Bombay) "Quantum Effects in Light Propagation through a Nonlinear Medium" | |
| 4:45 p.m. | TAd4 G.A. KOGANOV, A.M. KHAZANOV (USSR Acad. of Sciences, Komsomolsk on Amur), E.P. GORDOV (USSR Acad. of Sciences, Tomsk) "Quantum Theory of Coherently-Pumped Laser" | | TBd3 K. WODKIEWICZ (Warsaw U.) "Quantum Jumps and Continuous Observations" | | Tcd4 BOZENA SOBOLEWSKA and JAN MOSTOWSKI (Polish Academy of Sciences) "Radiation from an Atom Located in the Vicinity of Dielectric - Space-Time Analysis" | | TDd3 JOHN THOMPSON and RAJAFSHI ROY (Georgia Tech.) "Two Pulse Nonlinear Excitations in Optical Fibers" | |
| 5:00 p.m. | TAd5 K.J. PHILLIPS, M.R. YOUNG and SURENDRA SINGH (U. Arkansas) "Correlation Functions of a HeNe Laser with Multiplicative White Noise" | | TBd4 A.S. PARKINS and C.W. GARDINER (U. Waikato) "The Effect of Dissipation on Macroscopic Quantum Coherence in a Double-Well System" | | Tcd5 M.R.B. WAHIDDIN, S.S. HASSAN and R.K. BULLOUGH (UMIST) "Transient and Spectral Properties of Several Rydberg Atoms in a Squeezed Vacuum" | | TDd4 YEHIAM PRIOR, A.G. KOFMAN, R. ZAIBEL (Weizmann Inst. of Science), A.M. LEVINE (College of Staten Island) "Generalized Jump Model for Phase Fluctuations in Nonlinear Optics" | |
| 5:15 p.m. | TAd6 WOJCIECH GADOMSKI (U. Oregon) "Elimination of the Dynamics of the Rotational Levels in a Four-Level CO ₂ Laser Model" | | TBd5 F.T. HIOE and C.E. CARROLL (U. Rochester) "Excitation of Three-State Atom with Minimum Population of Intermediate State" | | Tcd6 J. SEKE, R. SCHNABL and F. RATTAY (Tech. U., Wien) "Collective Radiation Inhibition Effects in the Many-Atom Jaynes-Cummings Model" | | TDd5 OLE KELLER (U. Aalborg) "Optical Second-Harmonic Generation and Rectification in a Superconductor with Cooper Pairing" | |
| 5:30 p.m. | TAd7 A.D. MAY (U. Toronto) and G.M. STEPHEN (U. Rennes) "Quasi-Isotropic Lasers: A New Understanding of an Old Problem" | | TBd6 G. COMPAGNO, G.M. PALMA, R. PASSANTE and F. PERSICO (Istituto di Fisica dell'Universita, Palermo) "QED of a Two-Level Atom and Photodetection" | | | | TDd6 J.W. HAUS, N. KALYANIWALLA (Rensselaer Polytechnic Inst.), M. BLOEMER, R. INGUVA and C.M. BOWDEN (Radstone Arsenal) "Composite Materials for Nonlinear Optics: Theory and Experiment" | |

6:45 p.m. CONFERENCE RECEPTION } (Danforth Dining Center)
7:30 p.m. CONFERENCE DINNER
8:30 p.m. AFTER-DINNER SPEAKER: P. FRANKEN (U. Arizona) "Coherent and Incoherent Irrelevancies"

WEDNESDAY, JUNE 28, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|------------|---|--------|---|-----------|---|---------------|--|
| WAA | INSTABILITIES AND CHAOS II | WBA | COHERENCE AND FLUCTUATIONS II | WCa | NON-CLASSICAL PHOTON STATISTICS III | WDa | NONLINEAR OPTICS II |
| | Chairman: M.O. SCULLY | | Chairman: N. GEORGE | | Chairman: M.W. SCHUBERT | | Chairman: N. BLOEMBERGEN |
| 9:00 a.m. | WAA1 "N.B. ABRAHAM (Bryn Mawr) and C.O. WEISS (Physikalisch Tech. Bundesanstalt, Braunschweig) "Dynamics of NH ₃ FIR Laser and the Lorenz Model" | | WBA1 JEFFREY H. SHAPIRO, SCOTT R. SHEPARD and NGAI C. WONG (MIT) "A New Number-Phase Uncertainty Principle" | | WCa1 G.S. HOLLIDAY and SURENDRA SINGH (U. Arkansas) "Enhancement of Photon Antibunching in Second Harmonic Generation" | | WDa1 "S. AKHMANOV (Moscow State U.) "Spatio-Temporal Structure and Chaos in Nonlinear Optical Systems with Two-Dimensional Feedback" |
| 9:15 a.m. | | | WBA2 L. DOMASH, P. LEVIN (Foster Miller Inc.) and M.A. FIDDY (U. Lowell) "Fluctuation Interferometer as High Angular-Resolution Sensor of Laser Illumination" | | WCa2 RICHARD A. CAMPOS, MALVIN C. TEICH and BAHAA E.A. SALEH (Columbia U.) "Photon-Number Distributions for Homodyne Photomixing at a Lossless Beam Splitter" | | WDa2 G.S. AGARWAL (U. Hyderabad) and R.R. PURI (BARC, Bombay) "Quantum Theory of Interaction of a Resonant Field with a Nonlinear Medium Modelled as an Anharmonic Oscillator" |
| 9:30 a.m. | WAA2 D.K. BANDY and D.J. JONES (Oklahoma State U.) "Dimensionality Studies of Chaotic Attractors in Laser with Injected Signal" | | WBA3 HIDEYA GAMO (U.C., Irvine) "Phase-Sensitive Light Amplifiers in Stellar Interferometry" | | WCa3 B. YURKE and M.J. POTASEK (AT&T Bell Labs.) "Solution to the Initial Value Problem for the Quantum Nonlinear Schrodinger Equation" | | WDa3 P. COLET (U. de les Illes Balears), M.C. TORRENT (U. de Barcelona) and M. SAN MIGUEL (U. de les Illes Balears) "Relaxation Problems and Lifetimes in Nonlinear Optical Systems" |
| 9:45 a.m. | WAA3 W.J. FIRTH and A. FITZGERALD (U. Strathclyde) "Transverse Modulational Instabilities in Kerr Media" | | WBA4 EERO TERVONEN, JARI TURUNEN and ARI T. FRIBERG (Helsinki U.) "Transverse Mode Structure of Laser Beams Determined from Spatial Coherence" | | WCa4 H. le PAS de SECHEVAL and C. BENDJABALLAH (C.N.R.S.) "Information Performance for a Binary Channel with Photon Counting Detection" | | WDa4 HANS RIIS JENSEN and OLE KELLER (U. Aalborg) "Optical Second-Harmonic Generation from Jellium. The Classical Nonlinear, Nonlocal Response Tensor and the Collective-Mode Pattern" |
| 10:00 a.m. | WAA4 J. O'GORMAN, B.J. HAWDON, J. HEGARTY (Trinity College, Dublin), D.M. HEFFERNAN (Nat. Inst. of Higher Education) "Frequency Locking, Quasiperiodicity and Chaos in Modulated External Cavity Injected Lasers" | | WBA5 PENG JIN SHENG (Huazhong Normal U.) "Resonance Fluorescence of Atom in Strong Magnetic Field" | | WCa5 ROBERT G.W. BROWN and MATTHEW DANIELS (R.S.R.E., Malvern) "Silicon Avalanche Photodiodes for Quantum Optics Experiments: Sub-Geiger Performance" | | WDa5 M. NIETO-VESPERINAS and G. LERA (C.S.I.C.) "Depletion Effects in Second Harmonic Generation with a Partially Coherent Beam" |
| 10:15 a.m. | WAA5 K.J. DRUHL and C. WINDENBERGER (Maharishi International U.) "Self-Observation and Self-Referral in Lasers: An Analysis of the Transition from Quantum to Classical Behavior" | | | | | | |
| 10:30 a.m. | COFFEE BREAK | | | | | | |

WEDNESDAY, JUNE 28, 1989

| HUBBLE | | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|------------|---|-----|---|-----|--|-----|--|--|
| WAb | INSTABILITIES AND CHAOS III | WbB | ATOM-FIELD INTERACTIONS II | Wcb | COOPERATIVE EFFECTS II | WDb | FUNDAMENTAL TESTS OF QUANTUM MECHANICS AND LOCALITY | |
| | Chairman: N.B. ABRAHAM | | Chairman: P.R. BERMAN | | Chairman: S. MUKAMEL | | Chairman: E.C.G. SUDARSHAN | |
| 11:00 a.m. | WAb1 J.D. PARK, D.S. SEO and J.G. McINERNEY (U. New Mexico) "Quasi-Subharmonic Bifurcation Routes to Chaos in External Cavity Semiconductor Lasers" | | WBb1 "V. CHEBOTAYEV (USSR Acad of Sciences, Novosibirsk) "Synchronization of Quantum Transitions" | | Wcb1 P.D. DRUMMOND, S.J. CARTER (U. Queensland), J.D. HARVEY and R. LEONHARDT (U. Auckland) "Superfluorescent Generation of Mode-Locked Pi Pulses" | | WDb1 D.J. HEINZEN, J.J. BOLLINGER, WAYNE M. ITANO, S.L. GILBERT, C.J. WINELAND (NIST, Boulder) "Test of the Linearity of Quantum Mechanics by RF Spectroscopy of the $^9\text{Be}^+$ Ground State" | |
| 11:15 a.m. | WAb2 DAAN LENSTRA (Eindhoven U.) and JULIUS S. COHEN (Philips Research Labs.) "Spectral Analysis for the Coherence Collapsed Diode Laser" | | WBb2 J. SEKE (Tech. U., Wien) "A New Non-perturbative Method for Treating Interactions of Atoms with Radiation Field" | | Wcb2 R.R. PURI, R.K. BULLOUGH and N. NAYAK (UMIST) "Collective Dynamical Statistical and Equilibrium Properties of N Rydberg Atoms Making 2-Photon Transitions" | | WDb2 M.O. SCULLY (U. New Mexico) and K. WODKIEWICZ (Warsaw U.) "On the Quantum Malus Law for Photon and Spin Quantum Correlations" | |
| 11:30 a.m. | WAb3 HERBERT G. WINFUL (U. Michigan) "Instabilities and Chaos in Phase-Locked Semiconductor Laser Arrays" | | WBb3 YIFU ZHU, A. LEZAMA, QILIN WU and T.W. MOSSBERG (U. Oregon) "Experimental Study of the Fluorescence Spectrum Emitted by Two-Level Atoms under Strong Bichromatic Excitation" | | Wcb3 T.A.B. KENNEDY and D.F. WALLS (U. Auckland) "Optical Spectra of a Strongly Coupled System of Atoms in a Cavity Driven by Squeezed Light" | | WDb3 M.D. REID (U. Wakato) and P.D. DRUMMOND (U. Queensland) "Optical Einstein-Podolsky-Rosen Correlations" | |
| 11:45 a.m. | WAb4 GOVIND P. AGRAWAL (U. Rochester) "Cooperative Modulation Instability in Dispersive Nonlinear Media" | | WBb4 H. HUANG and J.H. EBERLY (U. Rochester) "Lineshape in the Theory of Phase-Dependent Three-Wave Pump-Probe Interactions" | | Wcb4 JAGDISH RAI, RAMARAO INGUVA and CHARLES M. BOWDEN (Redstone Arsenal) "Quantum Statistical Analysis of Superfluorescence and Amplified Spontaneous Emission in Dense Atomic Systems" | | WDb4 J.D. FRANSON (Johns Hopkins U.) "A New Test of Bell's Inequality Using Optical Interference" | |
| 12:00 noon | WAb5 DANIEL J. GAUTHIER, MICHELLE S. MALCUIT and ROBERT W. BOYD (U. Rochester) "Multistability and Chaos in Counter-propagating Laser Beams" | | WBb5 J. SEKE and W. HERFORT (Tech U., Wien) "Deviations from Exponential Decay in the Spontaneous Emission by a Two-Level Hydrogenic Atom" | | Wcb5 A.T. ROSENBERGER (Southern Methodist U.) "Amplitude and Phase Dynamics of Superradiant and Raman Pulse Trains" | | WDb5 SHANG SONG, CARLTON CAVES (U. Southern California) and BERNARD YURKE (AT&T Bell Labs.) "Schrödinger Kittens from Optical Back-Action Evasion" | |
| 12:15 p.m. | WAb6 F. MITSCHKE, C. BODEN, C. HENNING and I. ROLOFF (U. Hannover) "Observation of Chaos in a Passive Nonlinear Resonator" | | | | Wcb6 MUNAWAR KARIM (St. John Fisher College) "Metric-Perturbed Shifts in Superradiant States" | | WDb6 W.M. de MUYNCK and H. MARTENS (Eindhoven U.) "Optical Experiments Illustrating the Significance of the Bell Inequalities" | |
| 12:30 p.m. | LUNCH BREAK | | | | | | | |

WEDNESDAY, JUNE 28, 1989

| HUBBLE | | LANDER | | HOYT HALL | | LATTIMORE 201 | |
|-----------|---|--------|--|-----------|---|---------------|---|
| WAC | INSTABILITIES AND CHAOS IV | WBC | ATOM-FIELD INTERACTIONS III | WCc | MULTIPHOTON PROCESSES I (Jointly with SILAP) | WDC | LIGHT SCATTERING |
| | Chairman: P. MANDEL | | Chairman: R. CHIAO | | Chairman: P.W. MILONNI | | Chairman: H.M. PEDERSEN |
| 2:00 p.m. | WAc1 L.M. HOFFER and N.B. ABRAHAM (Bryn Mawr) "Stability Analysis of a Model for a Homogeneously Broadened Bidirectional Ring Laser" | | WBc1 K. YAMADA and P.R. BERMAN (New York U.) "Macroscopic Quantum Jumps from a Two-Atom System" | | WCc1 "L.A. LOMPRÉ (C.E.N. de Saclay) "Very High Order Harmonic Conversion of Intense YAG Laser Radiation in Rare Gases" | | WDC1 "H.M. NUSSENZVEIG (Pontificia U., Rio de Janeiro) "Tunneling and Resonances in Mie Scattering" |
| 2:15 p.m. | WAc2 R.G. HARRISON, WEIPING LU and P.K. GUPTA (Heriot-Watt U.) "Origin of Pulsating Instabilities and Chaos in Raman Lasers" | | WBc2 JAN GROCHMALICKI and MACIEJ LEWENSTEIN (Polish Acad. of Sciences) "Detection of Decay Processes and Cavity Fields by Means of Quantum Jump Statistics" | | | | |
| 2:30 p.m. | WAc3 U. HUBNER, W. KLISCHE (Phys. Tech. Bundesanstalt, Braunschweig) and N.B. ABRAHAM (Bryn Mawr) "Dimension Calculations for Comparison of Lorenz-Like Laser Behaviour with the Lorenz Model" | | WBc3 K. WODKIEWICZ and N.H. CONG (Warsaw U.) "Optical Resonance Equations in the Presence of Strong Radiation and Shot-Noise Collisions" | | WCc2 "B.W. SHORE and K.C. KULANDER (Lawrence Livermore Natl. Lab.) "Generation of Optical Harmonics by Intense Pulses of Laser Radiation: A Theoretical View" | | WDC2 JOHN T. FOLEY (Mississippi State U.) and EMIL WOLF (U. Rochester) "Scattering of Electromagnetic Fields of Any State of Coherence from Fluctuating Media" |
| 2:45 p.m. | WAc4 FRANCESCO A. NARDUCCI, JOHN D. KOHLER and GIAN-LUCA OPPO (Drexel U.) "Instabilities of a Coupled Cavity Laser" | | WBc4 WILHELMUS M. RUYTEN (U. Tennessee Space Institute) "Resonance Behavior of a Two-Level Atom Driven by Amplitude- or Frequency- Modulated Fields" | | | | WDC3 EMIL WOLF (U. Rochester) "On the Possibility of Generating Doppler-like Frequency Shifts of Spectral Lines by Scattering from Space-Time Fluctuations" |
| 3:00 p.m. | WAc5 M. ARJONA, R. CORBALAN (Aut. U. de Barcelona), F. LAGUARTA, J. PUJOL (U. de Catalunya), R. VILASECA (U. de Valencia) "Progress in Modelling Coherently Pumped Far-Infrared Laser Dynamics" | | WBc5 MARTIN WILKENS (Inst. for Theor. Phys., Warsaw) and KAZIMIERZ RZAZEWSKI (U. Rochester) "Resonance Fluorescence, Amplitude Modulation and Fibonacci Numbers" | | WCc3 "H.R. REISS (American U.) "Relativistic Effects in High-Intensity Photon-Electron Interactions" | | WDC4 BRIAN CAIRNS and EMIL WOLF (U. Rochester) "Comparison of Two Theories of Scattering from Quasi-Homogeneous Media" |
| 3:15 p.m. | | | WBc6 BENJAMIN FAIN (Tel-Aviv U.) "Spontaneous and Induced Emission of Soft Bosons: Exact Non-Markovian Solution" | | | | WDC5 ALBERT M.F. LAU and ROGER L. FARROW (Sandia Natl. Lab., Livermore) "Nonlinear Gaussian Expansions of Stochastic Processes: Super-Gaussian Statistics of n-Harmonic Fields" |
| 3:30 p.m. | COFFEE BREAK | | | | | | |

WEDNESDAY, JUNE 28, 1989

LATTIMORE 201

HOYT HALL

POSTDEADLINE PAPERS

WD3

MULTIPHOTON PROCESSES II (jointly with SILAP)

Chairman: C.R. STROUD, Jr.

LANDER

ATOM-FIELD INTERACTIONS IV

WCD

Chairman: R.L. MCCRORY

WCd1 *M.V. FEDOROV (USSR Acad. of Sciences) "Coherence and Interference in Photoionization of Rydberg Atoms"

HUBBLE

INSTABILITIES AND CHAOS V

WBd

Chairman: R. CORBALAN

WAd1 SHAWN D. PETHEL (U. Alabama) and CHARLES M. BOWDEN (Redstone Arsenal) "Fractal Properties of the Rotating 'van der Pol Oscillator with Phase'"

WAd2 N.P. PETTIAUX, LI RUO-DING and PAUL MANDEL (U. Libre de Bruxelles) "Instabilities of the Degenerate Optical Parametric Oscillator"

WAd3 W. FORYSIK, J.V. MOLONEY and R.G. HARRISON (Heriot-Watt U.) "Chaotic Dynamics of Optically Pumped Lasers"

WAd4 LEE W. CASPERSON and MANUELA FE H. TARROJA (Portland State U.) "Models and Approximations for Instabilities in Standing-Wave Lasers"

WAd5 G.E. JAMES, E.M. HARRELL II and RAJARSHI ROY (Georgia Tech.) "Intermittency in Intracavity Doubled YAG Lasers"

WBd6 DAVID COHEN and LLOYD W. HILLMAN (Cornell U.) "Phase Fluctuation and Damping in Two-Level Optical Resonance"

WBd7 E. OZIZMIR, W.M. SCHREIBER, A.M. LEVINE (College of Staten Island) "Pump-Probe Lineshape Formulas with Damping"

WCd2 *P.H. BUCKSBAUM, A. ZAVRIYEV and D.W. SCHUMACHER (AT&T Bell Labs.) "The Hydrogen Molecule in Intense Laser Light"

WCd3 M. SANJAY KUMAR and G.S. AGARWAL (Hyderabad U.) "Diagrammatic Methods for Nonlinear Response of a System Dressed by Resonant External Fields"

WCd4 W. LEONSKI and R. TANAS (A. Mickiewicz U.) "Population Trapping Effect for System with Double Autoionizing Levels"

6:00 p.m. CLOSE OF CQ06

LATTIMORE 201

WDd POSTDEADLINE PAPERS

Chairman: C.R. STROUD, Jr.

- 4.00 pm WDd1 J.V. HAJNAL, K.G.H. BALDWIN, P.T.H. FISK, H.-A. BACHOR,
G.I. OPAT (Austral. Nat. U., Canberra) "Reflection and Diffraction
of Sodium Atoms by an Evanescent Laser Light Field"
- 4.15 pm WDd2 G. BABST, G. REMPE, F. SCHMIDT-KALER and H. WALTHER (U. München
and Max Planck Inst.) "Photon statistics in the One-Atom Maser"
- 4.30 pm WDd3 Z.Y. OU, L.J. WANG, X.Y. ZOU and L. MANDEL (U. of Rochester)
"Optical Phase Information due to the Vacuum in Two-Photon Down-
Conversion"
- 4.45 pm WDd4 H. RISKEN and J. EISELT (U. Ulm) "Quasiprobabilities for the
Jaynes-Cummings Model with Damping"
- 5.00 pm WDd5 A. DUNCAN, R. MAWHINNEY and P. STEHLE (U. PITTSBURGH)
"Monte Carlo Simulation of Real-time Quantum Processes"
- 5.15 pm WDd6 S.R. FRIBERG (NTT Basic Research Labs, Tokyo) "Soliton
Collisions for Quantum Nondemolition Measurement of Photon Number:
The QND Soliton Interferometer"

POSTER SESSION

May Room, Wilson Commons

Wednesday, June 28, 1989, 10:30 a.m. - 4:00 p.m.

- P1 V.A. ANDREEV and P.B. LERNER (Lebedev Phys. Inst., Moscow) "Supersymmetry in the Jaynes-Cummings Model"
- P2 S. CHELKOWSKI and A.D. BANDRAUK (U. de Sherbrooke) "Coherent Propagation of Ultrashort Laser Pulses in Multilevel Medium"
- P3 K. HOLLIDAY and N.B. MANSON (Australian Natl. U., Canberra) "Raman Heterodyne detection of Electron Paramagnetic Resonance"
- P4 F.-L. HONG, M. TACHIKAWA, K. TANII and T. SHIMIZU (U. Tokyo) "Laser Instabilities and Chaos in infrared Gas Lasers with Saturable Absorber"
- P5 S.V. LAWANDE, Q.V. LAWANDE and B.N. JAGATAP (Bhabha Atomic Research Centre, Bombay) "Quantum Jumps in a system of Three-Level Atoms"
- P6 X. LI and B. SU (Tianjin U.) "Higher Order Squeezing of Quantum Electromagnetic Fields in Two-Mode Squeezed States"
- P7 K.T. LU and J. ZHANG (U. of Science & Technology, Beijing) "Observation of High Efficiency VUV Stimulated Radiation based on Laser Induced Cooperative Excimer Complex Formation in a Dense Mixture of Mg and Ar Gas"
- P8 K.T. LU (Atomic Engineering Corp., Gaithersburg) "On the Theory of Laser Induced Cooperative Excimer Complex Formation"
- P9 M.A.M. MARTE, H. RITSCH and D.F. WALLS (U. Waikato, U. Innsbruck, U. Auckland) "Squeezed Reservoir Lasers"
- P10 H. RITSCH, TH. HASLWANTER and P. ZOLLER (U. Innsbruck) and J. COOPER (J.I.L.A., Boulder) "Laser Noise Induced Population Fluctuations in Two-Level Systems"
- P11 P.A. RODGERS (Rutherford Appleton Lab.) and S. SWAIN (Queen's U. Belfast) "Resonance Fluorescence with Square Pulses - an Explanation for Asymmetries and Extra Peaks"
- P12 M.L. TER-MIKAELIAN (Armenian Acad. Sciences) "Laser Beam Propagation through a Resonant Medium"
- P13 K. WYNNE, M. MULLER and J.D.W. VAN VOORST (U. Amsterdam) "High Time Resolution with Incoherent Light in the Raman-Fringe-Decay."
- P14 J.J. SANCHEZ-MONDRAGON (Centro Invest. Opt., Leon, Mexico) "Thermal Revivals in the Jaynes-Cummings Model"
- P15 X. CHEN, V.L. TELEGDI and A. WEIS (Inst. fur Hochenergiephysik, Zurich) "Non-Linear Resonant Faraday Effect in Cesium: A Quantitative Comparison between Experiment and Theory"

(over..)

P16 D.R. MEACHER, M. KACZMAREK, P. EWART and M. BELSLEY (Clarendon Lab., Oxford) "Laser Bandwidth and Atomic Relaxation Effects on DFWM with Broad Bandwidth Pulsed Lasers"

P17 S.M. SKIPPON, P. SNOWDON and P. EWART (Clarendon Lab., Oxford) "Improved Noise Performance in Single Shot Cars Using a Modeless Laser"

P18 J.R. KUKLINSKI (Polish Academy of Science) "Generation of Fock States of the Electromagnetic Field in a High-Q Cavity Through the Anderson Localization"

P19 Y. ZHU and T.W. MOSSBERG, M. LEWENSTEIN and J.R. KUKLINSKI (Polish Academy of Science) "Strongly Driven Two-Level Atoms as a Medium for a Multi-Photon Laser"

P20 K. ARNETT, R. RYAN, M.W. HAMILTON, J. BRANDENBERGER, T. BERGEMAN, H. METCALF and S.J. SMITH (JILA, Boulder) "Hanle Effect in Spectrally Broadened Light"

P21 N. LU (U. of New Mexico) "Lifetime of a Pure Number State in a Cavity"

P22 Y. SHEVY (Cal. Tech.) "Cooling Atoms with Extraresonant Stimulated Emission Below the Doppler Limit"

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| FRIEBERG | API | HELSINKI UNIV OF TECH | DEPT OF TECHNICAL PHYSI | ESPOO | 22150 | FINLAND |
| FRIED | LAURENCE | UNIVERSITY OF ROCHESTER | 115-4 HANOR PARKWAY | ROCHESTER, NY | 14620 | USA |
| GADOMSKI | WJCIECH | UNIVERSITY OF OREGON | DEPT OF PHYSICS | EUGENE, OR | 97405 | USA |
| GAETA | ALEXANDER | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| GAGE | EDWARD | UNIVERSITY OF ROCHESTER | 120 FURLONG STREET | ROCHESTER, NY | 14623 | USA |
| GADDA | MARIUSZ | UNIVERSITY OF ARIZONA | DEPARTMENT OF PHYSICS | TUCSON, AZ | 85721 | USA |
| GALVEZ | ENRIQUE J | COLGATE UNIVERSITY | DEPT OF PHYSICS | HAMILTON, NY | 13346 | USA |
| GAMIEL | AVSHALOM | INSTITUTE OF OPTICS | 3100 ELWOOD AVENUE | ROCHESTER, NY | 14618 | USA |
| GANO | HIDEYA | UNIVERSITY OF CALIFORNIA | DEPT OF PHYSICS | IRVINE, CA | | USA |
| GAO | JUN YUE | JILIN UNIVERSITY | | CHANGCHUN | | CHINA |
| GARDNER | CRISPIN | UNIV OF WAIPATO | PHYSICS DEPT | HAMILTON | 14627 | NEW ZEALAND |
| GARRAWAY | BARRY M | RESEARCH INST THEOR PHYS | SILTAVUORENPEMBER 20C | HELSINKI | 00170 | FINLAND |
| GAPRETT | WILLIAM | OAKRIDGE NATIONAL LAB | BLDG 5500, MS 6378 | OAK RIDGE, TN | 37931 | USA |
| GAUTHIER | DANIEL J | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14623 | USA |
| GENTILE | THOMAS R | MIT | 26-229 | CAMBRIDGE, MA | 02139 | USA |
| GEORGE | NICHOLAS | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | |
| GERRY | CHRIS | ST. DONAVENTURE | 1299 OLEAN PORTVILLE RD | WESTONS MILLS, NY | 19788 | USA |
| GIACORINO | ELISABETH | UNIVERSITE PARIS 6 | LAB SPECTRO HERTZIENNE | PARIS | 75252 | FRANCE |
| GIOGGIA | ROBERT S | WIDENER UNIVERSITY | | CHESTER, PA | 19013 | USA |
| GLAUBER | ROY J | HARVARD UNIVERSITY | LYMAN LABORATORY | CAMBRIDGE, MA | 02138 | USA |
| GLAUBER | ROY | HARVARD UNIVERSITY | LYMAN LABORATORY | CAMBRIDGE, MA | 02138 | USA |
| GLORIEUX | PIERRE | UNIVERSITE DE LILLE I | | VILLENEUVE D'ASCQ | 59655 | FRANCE |
| GLORIEUX | PIERRE | UNIVERSITE DE LILLE I | VILLENEUVE D'ASCQ CEDEX | | 59655 | FRANCE |
| GOLDBERG | PHILIP | CITY UNIV OF NEW YORK | 199 CHESTNUT STREET | ENGLEWOOD, NJ | 07631 | USA |
| GOODMAN | MATTHEW | BELL COMMUNICATIONS | 26 ESTATE ROAD | BELLE MEAD, NJ | 08502 | USA |
| GORI | FRANCO | UNIVERSITY OF ROME | BIP. FISICA UNIV PLE AND | ROME | 00185 | ITALY |
| GRAY | GEORGE | GEORGIA TECH | SCHOOL OF PHYSICS | ATLANTA, GA | 30332 | USA |
| GREEN | CHARLES K | BREXEL UNIVERSITY | 39 CRESSMONT AVENUE | BLACKWOOD, NJ | 08012 | USA |
| GREENWOOD | WILLIAM G | UNIVERSITY OF ROCHESTER | DEPT OF PHYSICS/ASTRON | ROCHESTER, NY | 14627 | USA |
| GRIMM | RUDOLF | ETH ZURICH | ETH-HOENSGERBERG HPT | ZURICH | 8093 | SWITZERLAND |
| HAJNAL | J | | 95 HOLFORD ROAD | LONDON | NW118EH | U K |
| HAMILTON | MURRAY W | UNIV OF STRATHCLYDE | PHYS DEPT, 107 ROTTEMHON | GLASGOW | 640NG | U K |
| HARRISON | ROBERT G | HERIOT-WATT UNIVERSITY | PHYSICS DEPARTMENT | EDINBURGH | | U K |
| HARTMAN | SVEN P | COLUMBIA UNIVERSITY | PHYSICS DEPT | NEW YORK, NY | 10025 | USA |
| HATEFI | MANLIO | NATO RESEARCH COUNCIL | 1ST DI ELETTRONICA QUAN | FLORENCE | 50127 | ITALY |
| HAUS | JOSEPH | RENSSELAER POLYTECH INST | PHYSICS DEPARTMENT | TROY, NY | 12180 | USA |
| HAWDON | BRENDAN | TRINITY COLLEGE | PHYSICS DEPARTMENT | DUBLIN | 2 | U K |
| HEINZEN | DANIEL J | WIS | 325 BROADWAY MS 576.11 | BOULDER, CO | 80303 | USA |
| HELFERICH | JEROME A | WIS | 325 BROADWAY 576.10 | BOULDER, CO | 80303 | USA |
| HILLEBY | MARY | HUNTER COLLEGE OF CUNY | DEPT OF PHYSICS | NEW YORK, NY | 10021 | USA |
| HILLMAN | LLOYD | UNIVERSITY OF ALABAMA | 205 RIDGEDALE ROAD | ITHACA, NY | 14850 | USA |
| HIOE | F | ST JOHN FISHER COLLEGE | | ROCHESTER, NY | 14618 | USA |

REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZA | ADDRESS1 | ADDRESS2 | MAILCODE | COUNTRY |
|------------------|------------|---------------------------|--------------------------|------------------|----------|--------------|
| HO | SENG-TION | AT&T BELL LABORATORIES | 600 MOUNTAIN AVENUE | MURRAY HILL, NJ | 07974 | USA |
| HODAPP | THEODORE | HAWAIIAN UNIVERSITY | PHYSICS DEPT | ST PAUL, HI | 55104 | USA |
| HOFFER | LOIS M | BRYN MAWR COLLEGE | DEPT OF PHYSICS | BRYN MAWR, PA | 19010 | USA |
| HOLLIDAY | KEITH | AUSTRALIAN NATL UNIV | LASER PHYSICS CENTER | CANBERRA | 2601 | AUSTRALIA |
| HONG | FENG-LEI | TOKYO UNIVERSITY | 1-3-1, HONGO, BUNKYO-KU | TOKYO | 113 | JAPAN |
| HORNE | MICHAEL | STONEHILL COLLEGE | STONEHILL COLLEGE | NORTH EASTON, MA | 02357 | USA |
| HUANG | JIANGMING | NORTHWESTERN UNIVERSITY | 2215 WESLEY AVENUE | EVANSTON, IL | 60201 | USA |
| HUANG | HU | UNIVERSITY OF ROCHESTER | DEPT PHYSICS & ASTRONOMY | ROCHESTER, NY | 14627 | USA |
| HUEDNER | UDO | PHYS TECH BUNDESANSTALT | BUNDESALLEE 100, 4.42 | BRAUNSCHWEIG | 3300 | FED REP GERM |
| HUGHEY | BARBARA | MIT | 26-214 | CAMBRIDGE, MA | 02139 | USA |
| HUTTMER | BRUNO | TECHNION | DEPT OF PHYSICS | HAIFA | 32000 | ISRAEL |
| ITANO | WAYNE M | MIST | 325 BROADWAY STREET | BOULDER, CO | 80303 | USA |
| JAKENAN | ERIC | RSRE | ST ANDREWS ROAD | MALVERN, WORCS | WR143PS | U K |
| JAMES | DANIEL F V | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| JAMES | GLENN | GEORGIA TECH | SCHOOL OF PHYSICS | ATLANTA, GA | 30332 | USA |
| JAVANAINEN | JUHA | UNIVERSITY OF CONNECTICUT | DEPT OF PHYSICS, U-46 | STORRS, CT | 06269 | USA |
| JENSEN | HANS | UNIVERSITY OF AALBORG | PONTOPPIDANSTRAEDE 101 | AALBORG | 9220 | DENMARK |
| JONES | DARLENA | OKLAHOMA STATE UNIV | 111 HUSBAND NC | STILLWATER, OK | 74074 | USA |
| KACZMAREK | MALGORZATA | OXFORD UNIVERSITY | CLARENDON LABORATORY | OXFORD | OX14 3H | U K |
| KALYANIMALLU | MAUZER | RENSSELAER POLYTECH INST | PHYSICS DEPARTMENT | TROY, NY | 12180 | USA |
| KARIM | MUNAWAR | ST JOHN FISHER COLLEGE | DEPT OF PHYSICS | ROCHESTER, NY | 14618 | USA |
| KAUBERER | MARK | UNIVERSITY OF TEXAS | DIVISION OF ENGINEERING | SAN ANTONIO, TX | 78285 | USA |
| KAURANEN | MARTTI | UNIVERSITY OF ROCHESTER | 125 UNIVERSITY PARK | ROCHESTER, NY | 14620 | USA |
| KELLER | OLE | UNIVERSITY OF AALBORG | BLEGDALSPARKEN 34 | AALBORG | 9000 | DENMARK |
| KENNEDY | T A BRIAN | UNIVERSITY OF AUCKLAND | DEPT OF PHYSICS | AUCKLAND | | NEW ZEALAND |
| KIR | YOUNG | UNIVERSITY OF MARYLAND | DEPT OF PHYSICS | COLLEGE PARK, MD | 20742 | USA |
| KIRBLE | H. JEFFREY | CALTECH | PHYSICS DEPT, 12-33 | PASADENA, CA | 91125 | USA |
| KNIGHT | PETER | IMPERIAL COLLEGE | PRINCE CONSORT ROAD | LONDON | SW7 2BZ | U K |
| KNOESTER | JASPER | UNIVERSITY OF ROCHESTER | CHEMISTRY DEPT | ROCHESTER, NY | 14627 | USA |
| KOCH | KARL | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| KOFMAN | ABRAHAM | WEIZMANN INSTITUTE | DEPT OF CHEMICAL PHYSICS | REHOVOT | | ISRAEL |
| KOFMAN | ABRAHAM | WEIZMANN INSTITUTE | DEPT OF CHEMICAL PHYSICS | REHOVOT | 50125 | ISRAEL |
| KOHLER | JOHN D | DREXEL UNIVERSITY | 3701 BERING STREET | PHILADELPHI, PA | 19104 | USA |
| KRASINSKI | JERZY | ALLIED SIGNAL INC | PO BOX 1021R | MORRISTOWN, NJ | 07060 | USA |
| KRATZEL | AXEL | CALTECH | HS 12-33 | PASADENA, CA | 91125 | USA |
| KROLIKOWSKI | MIESLAW Z | TUFTS UNIVERSITY | HALLIGAN HALL, 161 COLL | NEEDHAM, MA | 02155 | USA |
| KULINSKI | JAN RAFAL | POLISH ACADEMY SCIENCES | AL LOTNICKA 32/44 | WARSAW | 02 668 | POLAND |
| KULANDER | KENNETH C | LLNL | PO BOX 808, L-430 | LIVERMORE, CA | 94550 | USA |
| KUNAR | PREM | NORTHWESTERN UNIVERSITY | EECS DEPT, 2145 SHERIDAN | EVANSTON, IL | 60208 | USA |
| KUNAR | SANJAY | UNIV OF HYDERABAD | SCHOOL OF PHYSICS | HYDERABAD, AP | 50108 | INDIA |
| KUN CHI | PEING | CALTECH | BAIL CODE 12-33 | PASADENA, CA | 91125 | USA |
| KUD | SHINJONG | UNIVERSITY OF OREGON | DEPT OF PHYSICS | EUGENE, OR | 97405 | USA |
| KURIZKI | GERSHON | WEIZMANN INSTITUTE OF SCI | DEPT OF CHEMICAL PHYSICS | REHOVOT | 76100 | ISRAEL |
| KYROLA | ERKKI | FINNISH METEOROLOGICAL | VESAKKOTIE 3 B 07 | HELSINKI | 00630 | FINLAND |
| LANE | ALISTAIR | UNIV OF SOUTHERN CALIF | CTR FOR LASER STUDIES | LOS ANGELES, CA | 90089 | USA |
| LANGE | WULFHARD | INST ANGEWANDTE PHYSIK | CONRERSSTR 214 | ROENSTEN | 4400 | FED REP GERM |
| LARCHUX | TODD S | COLUMBIA UNIVERSITY | 210 WELLINGTON PLACE | HATVAN, NJ | 07747 | USA |
| LAU | ALBERT | SANDIA NATIONAL LABS | | LIVERMORE, CA | 94551 | USA |
| LAU | STANLEY | CORNELL UNIVERSITY | PHILLIPS HALL | ITHACA, NY | 14853 | USA |
| LAX | M | CITY COLLEGE OF NEW YORK | 12 HIGH STREET | SUNNIT, NJ | 07901 | USA |
| LE BERRE | MARTINE | LABORATOIRE DE PPH | BAT 213 | ORSAY | 91405 | FRANCE |
| LE PAS DE SECHEV | HELMAN | PARIS XI | 48 BOULEVARD JOURDAN | PARIS | 75014 | FRANCE |

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REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZA | ADDRESS1 | ADDRESS2 | MAILCODE | COUNTRY |
|---------------------|--------------------|-----------------------------------|-------------------------------|----------------------|------------------|------------------|
| LEE | CHING | ALABAMA A&M UNIVERSITY | 3213 HASTINGS ROAD | HUNTSVILLE, AL | 35801 | USA |
| LEE | SEUNGHEE | NORTHWESTERN UNIVERSITY | 800 HINMAN AVE. #609 | EVANSTON, IL | 60202 | USA |
| LENSTRA | DAAN D | EINDHOVEN UNIV OF TECH | DEPT OF PHYSICS POB 513 | EINDHOVEN | 5600 | NETHERLANDS |
| LETT | PAUL D | MATL INST OF STDS & TECH | PHYSICS B160 | GAITHERSBURG, MD | 20899 | USA |
| LEVENSON | HARC D | IBM RESEARCH DIVISION | #31/802D, 450 HARRY RD | SAN JOSE, CA | 95120 | USA |
| LEWENSTEIN | MACIEJ A | HARVARD UNIVERSITY | 20 TIFTS STREET | CAMBRIDGE, MA | 02139 | USA |
| LEZANA | ARTURO A | UNIVERSITY OF OREGON | 122 SCIENCE 1 | EUGENE, OR | 97405 | USA |
| LI | RUO DING | UNIV LIBERTE BRUXELLES | PLAINE C P 231 | BRUSSELS | 1050 | BELGIUM |
| LIN | HONG | BRYN MAWR COLLEGE | DEPT OF PHYSICS | BRYN MAWR, PA | 19010 | USA |
| LINDBERG | MARTUS | UNIVERSITY OF ARIZONA | OPTICAL SCIENCES CTR | TUCSON, AR | 85721 | USA |
| LIPPI | GIAN LUCA | BRYN MAWR COLLEGE | DEPT OF PHYSICS | BRYN MAWR, PA | 19010 | USA |
| LONPRE | L | SPAS/CEN DE. SACLAY | | GIF SUR YVETTE | 91191 | FRANCE |
| LOUBON | RODNEY | ESSEX UNIVERSITY | PHYSICS DEPT | COLCHESTER | CO7 4SD | U K |
| LU | NING | UNIVERSITY OF NEW MEXICO | DEPT OF PHYSICS | ALBUQUERQUE, NM | 87131 | USA |
| LU | K T | ATOMIC ENGINEERING CORP | PO BOX 3342 | GAITHERSBURG, MD | 20878 | USA |
| LUGIATO | LUIGI | POLITECNICO DE TORINO | DIPARTIMENTO DI FISICA | TORINO | 10129 | ITALY |
| MACPHERSON | DAVID | MONTANA STATE UNIVERSITY | PHYSICS DEPT, AJM106 | BOZEMAN, MT | 59717 | USA |
| MAGILL | BRIAN | UNIVERSITY OF ROCHESTER | 417 RICHARDSON ROAD | ROCHESTER, NY | 14623 | USA |
| MAI | JEFFREY | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14620 | USA |
| MALCUIT | MICHELLE | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| MALLALIEU | MARK | UNIVERSITY OF ROCHESTER | 2 LILAC DRIVE | ROCHESTER, NY | 14620 | USA |
| MANDEL | PAUL | UNIV LIBERTE BRUXELLES | PLAINE C P 231 | BRUSSELS | 1050 | BELGIUM |
| MANDEL | LEONARD | UNIVERSITY OF ROCHESTER | DEPT OF PHYSICS/ASTROM | ROCHESTER, NY | 14627 | USA |
| MANNA | AARON S | BREXEL UNIVERSITY | 1403 N 75TH STREET | PHILADELPHIA, PA | 19151 | USA |
| MANSON | PETER | AUSTRALIAN NATIONAL UNIV | | CANBERRA, ACT | 2601 | AUSTRALIA |
| MANTEGNA | ROSARIO | UNIVERSITAT DI PALERMO | VIA ARCHIRAFI 36 | PALERMO | 90123 | ITALY |
| MANTEGNA | ROSARIO | UNIV DI PALERMO | VIA ARCHIRAFI 36 | PALERMO | 90123 | ITALY |
| MARJORIBANKS | ROBIN | UNIVERSITY OF TORONTO | 40 ST GEORGE STREET | TORONTO, ONTARIO | M5S 1A7 | CANADA |
| MARTE | MONIKA | UNIVERSITY OF INNSBRUCK | INST FOR THEOR PHYSIK | INNSBRUCK | 6020 | AUSTRIA |
| MATTAR | FARRES | NEW YORK UNIVERSITY | PHYSICS DEPARTMENT | NEW YORK, NY | 10008 | USA |
| MATULIC | L | ST JOHN FISHER COLLEGE | DEPT OF PHYSICS | ROCHESTER, NY | 14618 | USA |
| MAWHINNEY | ROBERT | UNIVERSITY OF PITTSBURGH | DEPARTMENT OF PHYSICS | PITTSBURGH, PA | 15260 | USA |
| MAY | DAVID A | UNIVERSITY OF TORONTO | 40 ST. GEORGE STREET | TORONTO | M5S 1A7 | CANADA |
| MCCLAIN | STEPHEN | CORNELL UNIVERSITY | 119 QUEEN STREET | ITHACA, NY | 14850 | USA |
| MCCRORY | ROBERT | UNIV OF ROCHESTER | 250 EAST RIVER ROAD | ROCHESTER, NY | 14623 | USA |
| MCCRATH | PAUL | LAB FOR PHYSICAL SCIENCE | 12413 LAURIE DRIVE | SILVERSPRING, MD | 20904 | USA |
| METCALF | HAROLD | SUNY STONY BROOK | PHYSICS DEPT | STONY BROOK, NY | 11790 | USA |
| MEUCCI | RICCARDO | ISTITUTO NAZIONALE OTTIC | LARGO E. FERMI 6 | FIRENZE | 50125 | ITALY |
| MEYERHOFFER | DAVID | UNIVERSITY OF ROCHESTER | 220 HOOPERMAN BLDG | ROCHESTER, NY | 14627 | USA |
| MEYSTRE | PIERRE | UNIVERSITY OF ARIZONA | OPTICAL SCIENCES CENTER | TUCSON, AZ | 85721 | USA |
| MIES | FREDERICK | MIST | | GAITHERSBURG, MD | 20899 | USA |
| MILBURN | GERARD J | UNIVERSITY OF QUEENSLAND | DEPT OF PHYSICS | BRISBANE | 4067 | AUSTRALIA |
| MILLER | EDWARD | UNIVERSITY OF ROCHESTER | 95 CRITTENDEN ROAD | ROCHESTER, NY | 14620 | USA |
| MILOMI | PETER W | LOS ALAMOS NATIONAL LAB | MS J549 | LOS ALAMOS, NM | 87545 | USA |
| MITSCHLE | FEDOR | UNIVERSITY HANNOVER | INST FOR QUANTUMOPTICS | HANNOVER | 60023 | FRG |
| MLYNEX | JURGEN | ETH ZURICH | ETH HONGERBERG (HPT) | ZUERICH | 8093 | SWITZERLAND |
| MOLONEY | JERRY V | MERLOT-WATT UNIVERSITY | PHYSICS DEPARTMENT | EDINBURGH | | U K |
| MOLONEY | JERRY | MERLOT-WATT UNIVERSITY | PHYSICS DEPT | EDINBURGH, SCOTLAND | 76712 | UK |
| MOORE | MARY ANNE | HARVARD COLLEGE OBSERV | 60 GARDEN STREET | CAMBRIDGE, MA | 02138 | USA |
| MORTH | MICHAEL | UNIVERSITE LAVAL | 5160 LENAIRE | QUEBEC | G2E2G1 | CANADA |
| MOROI | DAVID S. | KENT STATE UNIVERSITY | 925 CRAIN AVENUE | KENT, OH | 44240 | USA |
| MORTAZAVI | MANSOUR | UNIVERSITY OF ARKANSAS | DEPT OF PHYSICS UA | FAYETTEVILLE, AR | 72701 | USA |

C006
REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZA | ADDRESS1 | ADDRESS2 | MAILCODE | COUNTRY |
|-------------------|--------------------|--------------------------------------|-------------------------------------|------------------------------|------------------|-------------------|
| MOSSBERG | THOMAS W | UNIVERSITY OF OREGON | DEPT OF PHYSICS | EUGENE, OR | 97433 | USA |
| MUELLER | NICHIEL | UNIVERSITY OF AMSTERDAM | NIEUWE ACHTERGRACHT 127 | AMSTERDAM | 1018WE | NETHERLAND |
| MUKAMEL | SHAUL | UNIVERSITY OF ROCHESTER | CHEMISTRY DEPT | ROCHESTER, NY | 14627 | USA |
| MULLER | HARNGEERT | FOR INSTITUTE | ROOISLAAN 407 | AMSTERDAM | 109054 | NETHERLAND |
| McIVER | JOHN | UNIVERSITY OF NEW MEXICO | DEPT PHYSICS & ASTRONOMY | ALBUQUERQUE, NM | 82131 | USA |
| MADORS | CHARLES | STANFORD UNIVERSITY | GINZTON LAB, 810 | STANFORD, CA | 94305 | USA |
| MAKAHARA | KATSUHIKO M | NIPPON ATOMIC INDUSTRY | 4-1 UKISHIMA-CHO | KAWASAKI | 210 | JAPAN |
| MARBUCCI | FRANCESCO | DREXEL UNIVERSITY | 504 MONELL LANE | HAVERTOWN, PA | 19083 | USA |
| MARBUCCI | LORENZO M | DREXEL UNIVERSITY | 32ND AND CHESTNUT ST | PHILADELPHIA, PA | 19104 | USA |
| MI | WEI-TOU | TSING-HUA UNIVERSITY | PHYSICS DEPT | HSINCHEU | 30043 | CHINA |
| NIEMHUIS | GERARD | UNIVERSITY OF UTRECHT | PO BOX 80000 | UTRECHT | 3500 | NETHERLAND |
| NIETOVERPERINAS | NAMUEL | INSTITUTO DE OPTICA CSIC | SERRANO 121 | MADRID | 28006 | SPAIN |
| MOH | JAEOOD | UNIVERSITY OF ROCHESTER | 334 QUINCY ROAD | ROCHESTER, NY | 14623 | USA |
| MUSSENZVEIG | HERCH | CATHOLIC UNIVERSITY, RIO | R HILARIO DE GOMVEIA 87 | RIO DE JANEIRO | 22040 | BRAZIL |
| O'GORMAN | JAMES | TRINITY COLLEGE | PHYSICS DEPARTMENT | DUBLIN | 2 | U K |
| OLIVER | BRIAN | UNIVERSITY OF ROCHESTER | DEPARTMENT OF PHYSICS | ROCHESTER, NY | 14627 | USA |
| OPPO | GIAN LUCA | DREXEL UNIVERSITY | 32ND AND CHESTNUT ST | PHILADELPHI, PA | 19104 | USA |
| OU | ZHE-YU | UNIVERSITY OF ROCHESTER | DEPT OF PHYSICS | ROCHESTER, NY | 14627 | USA |
| OZAWA | HANAMAO | NORTHWESTERN UNIVERSITY | 2730 HAMPTON PKWY 001 | EVANSTON, IL | 60201 | USA |
| OZIZMIR | ERCUMENT | COLLEGE OF STATEN ISLAND | 44 PARK PLACE | STATEN ISLAND, NY | 10301 | USA |
| PALMA | MASSIMO G | IMPERIAL COLLEGE | LASER OPTICS, BLACKETT | LONDON | SW7 2BZ | U K |
| PALKER | CHRIS A | MILTON ROY CO | M 820 LINDEN AVENUE | ROCHESTER, NY | 14625 | USA |
| PAPDERETIOU | STEPHANOS | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| PART | JONG-BAE | UNIV OF NEW MEXICO | 1180 ALVARADO 8214 | ALBUQUERQUE, NM | 87108 | USA |
| PARKINS | SCOTT | UNIVERSITY OF WAIKATO | PHYSICS DEPT | HAMILTON | | NEW ZEALAND |
| PAUL | ANDREW | UNIVERSITY OF ARIZONA | 528 E. LESTER | TUSCON, AZ | 85705 | USA |
| PEBERSEN | HANS | NORWEGIAN INST TECH | KASHNIRSKOE SHOSSE 31 | TROMSHEIM | 115409 | NORWAY |
| PEGG | DAVID T | GRIFFITH UNIVERSITY | SCHOOL OF SCIENCE | NATHAN, QLD | 4111 | AUSTRALIA |
| PEREIRA | SILVANIA | CALTECH | MAIL CODE 12-33 | PASADENA, CA | 91125 | USA |
| PERSICO | FRANCESCO | ISTITUTO DE FISICA | VIA ARCHIRAFI 36 | PALERMO | 90123 | ITALY |
| PESQUERA | LUIS | UNIVERSITY CANTABRIA | BPT FISICA MOD FAC CIEN | SANTANDER | 39005 | SPAIN |
| PETHEL | SHAWN | UNIVERSITY OF HUNTSVILLE | 209 S OXFORD CIRCLE | MERIDIANVILLE, AL | 35759 | USA |
| PETHEL | SHAWN | UNIV OF HUNTSVILLE | 209 S OXFORD CIRCLE | MERIDIANVILLE, AL | 35759 | US |
| PETITIAUX | NICOLAS P | UNIV LIBERTE BRUXELLES | PLAINE C P 231 | BRUSSELS | 1050 | BELGIUM |
| PHILLIPS | KENNETH | UNIV OF ARKANSAS | DEPT OF PHYSICS | FAYETTEVILLE, AR | 72701 | USA |
| PHOENIX | SIMON | IMPERIAL COLLEGE | LASER OPTICS, BLACKETT | LONDON | SW7 2BZ | U K |
| PIKE | EDWARD | KINGS COLLEGE LONDON | STRAND | LONDON | WC2R2LS | U K |
| PILLOFF | H S | OFFICE OF NAVAL RESEARCH | 800 N QUINCY, 111210 | ARLINGTON, VA | 22217 | USA |
| POLITI | ANTONIO | ISTITUTO NAZIONALE OTTICA | LARGO E FERMI 6 | FIRENZE | 50125 | ITALY |
| POLITI | ANTONIO | ISTITUTO NAZIONALE OTTICA | LARGO E FERMI 6 | FIRENZE | 50125 | ITALY |
| POSTAN | AARON | MRC ASSOC NICON | 1243 WILLOWBROOK DR 06 | HUNTSVILLE, AL | 35802 | USA |
| PRIOR | YEHIAH | WEIZMANN INSTITUTE | DEPT OF CHEMICAL PHYSICS | REHOVOT | | ISRAEL |
| PRIOR | YEHIAH | WEIZMANN INSTITUTE | DEPT CHEMICAL PHYSICS | REHOVOT | 01024 | ISRAEL |
| PRITCHARD | DAVID | MIT | 77 MASS AVE, 26-237 | CAMBRIDGE, MA | 02139 | USA |
| PUCCIONI | GIAMPIERO | ISTITUTO NAZIONALE OTTICA | LARGO E FERMI 6 | FIRENZE | 50125 | ITALY |
| PURI | RAVINDER | BARC | | BOMBAY | 94 | INDIA |
| RAI | JAGDISH | US ARMY MISSILE COMMAND | 1221 WILLOWBROOK DR 01 | HUNTSVILLE, AL | 35802 | USA |
| RAIMOND | JEAN | ECOLE NORMALE SUPERIEURE | 24 RUE LAMOND | 75005 PARIS | | FRANCE |
| RAKIN | MICHAEL | UNIVERSITY OF MARYLAND | NAVAL AIR DEV CTR | 365 NEWTOWN RD 25 | 18974 | USA |
| RARITY | JOHN | RSRE | ST ANDREWS ROAD | MALVERN, WORCS | 143PS | U K |
| RAYNER | MICHAEL | UNIVERSITY OF OREGON | DEPT OF PHYSICS | EUGENE, OR | 97405 | USA |
| REED | VALERIE | OXFORD UNIVERSITY | CLARENDON LAB, PARIS RD | OXFORD | | U K |

June 27, 1989

C006
REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZA | ADDRESS1 | ADDRESS2 | MAILCODE | COUNTRY |
|-----------------|-------------|--------------------------|--------------------------|-------------------|----------|-------------|
| REID | MARGARET | UNIVERSITY OF WAIKATO | PHYSICS DEPT | HAMILTON | | NEW ZEALAND |
| RENPE | GERHARD | UNIVERSITY MUNICH | PHYSIK DEPT | D-8046 GARCHING | | FED REP GER |
| REYNALD | SERGE | CHRS-ENS-UPMC | SPECTROSCOPIE HERTZIEN | PARIS | 75252 | FRANCE |
| RISKEN | HANWES | UNIVERSITY OF ULM | THEORETISCHE PHYSIK | 7900 ULM | | FED REP GER |
| RITCHIE | ADAM | LAWRENCE LIVERMORE LAB | 1951 CREEK ROAD | LIVERMORE, CA | 94550 | USA |
| RITSCH | HELMUT | UNIVERSITY OF INNSBRUCK | INST FOR THEOR PHYSIK | INNSBRUCK | 6020 | AUSTRIA |
| RODGERS | PETER A | RUTHERFORD LAB | LASER DIVISION | CHILTON DDCOT | 0X1100X | U K |
| ROSATZIN | MARTIN | ETH ZURICH | ETH-HOENSGENBERG HPT | ZURICH | 8093 | SWITZERLAND |
| ROSENBERGER | ALBERT T | SOUTHERN METHODIST UNIV | DEPT OF PHYSICS | DALLAS, TX | 75275 | USA |
| ROY | RAJARSHI | GEORGIA TECH | SCHOOL OF PHYSICS | ATLANTA, GA | 30332 | USA |
| RU | PIWG | DREXEL UNIVERSITY | 3701 POWELTON AVE, 82R | PHILADELPHI, PA | 19104 | USA |
| RUYTEN | WILHELMUS | UNIV TENN SPACE INST. | 80035 RESERVOIR | TULLAHOMA, TN | 37388 | USA |
| RZAZEWSKI | KAZIMIERZ M | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14623 | USA |
| SACS | RICHARD | LLNL | PO BOX 5508 | LIVERMORE, CA | 94550 | USA |
| SALEHI | JAVAD | BELLCORE | 445 SOUTH STREET | MORRISTOWN, NJ | 07960 | USA |
| SAN MIGUEL | M | UNIV IS LAS BALEARS | OPTO DE FISICA | PALMA MALLORCA | 07071 | SPAIN |
| SANCHEZ-RODRAGO | JAVIER | INVESTIGACIONES OPTICA | APDO POSTAL 940 | LEON,GT | 037000 | MEXICO |
| SARGENT | MURRAY | UNIVERSITY OF ARIZONA | OPTICAL SCIENCES CENTER | TUCSON, AZ | 85721 | USA |
| SCALORA | MICHAEL | RENSSELAER POLYTECH INST | PHYSICS DEPARTMENT | TROY, NY | 12180 | USA |
| SCHENZLE | AXEL | UNIVERSITY OF MUNICH | SEKTION PHYSIK | MUNICH | 8000 | FED REP GER |
| SCHOONMAKER | DAVID | OKLAHOMA STATE UNIV | 815 NORTH MONROE | STILLWATER, OK | 74075 | USA |
| SCHREIBER | WILLIAM M | COLLEGE OF STATEN ISLAND | 130 STUYVESANT PLACE | STATEN ISLAND, NY | 10301 | USA |
| SCULLY | MARLAN | UNIVERSITY OF NEW MEXICO | PHYSICS DEPARTMENT | ALBUQUERQUE, NM | 87131 | USA |
| SEKE | JOSIP | TECHN UNIVERSITAET WIEN | INSTITUT F THEOR PHYSIK | A-1040 WIEN | | AUSTRIA |
| SHAPIRO | JEFFREY H | MIT | ROOM 36-477 | CAMBRIDGE, MA | 02139 | USA |
| SHEPARD | SCOTT | MIT | ROOM 36-479 | CAMBRIDGE, MA | 02139 | USA |
| SHEYI | YAAKOV | CALTECH | PHYSICS DEPT, 12-33 | PASADENA, CA | 91125 | USA |
| SHORE | BRUCE | LLNL | PO BOX 808, L-438 | LIVERMORE, CA | 94550 | USA |
| SIBILIO | CONCITA | UNIV OF ROME | VIA SCARPA 16 | ROME | 00161 | ITALY |
| SIMON | RAJIAH | INST MATHEMATICAL SCIENC | | MADRAS | 600113 | INDIA |
| SINGER | FAIGE F | COLUMBIA UNIVERSITY | 535 W. 111TH STREET | NEW YORK, NY | 10025 | USA |
| SINGH | SURENDRA | UNIVERSITY OF ARKANSAS | PHYSICS DEPT | FAYETTEVILLE, AR | 72701 | USA |
| SIZMAN | ANDREAS | MPI FOR QUANTUM OPTICS | POSTFACH 1513 | D-8046 GARCHING | | FED REP GER |
| SKIPPON | STEPHEN | SHELL RESEARCH LAB | PO BOX 1 | CHESTER | | U K |
| SLOSSER | JOHN | UNIVERSITY OF ARIZONA | 528 E LESTER | TUCSON, AZ | 85705 | USA |
| SLUSHER | RICHART | AT&T BELL LABS | 600 MOUNTAIN AVE | MURRAY HILL, NJ | 07974 | USA |
| SNOWDON | PETER | OXFORD UNIVERSITY | CLARENDON LABORATORY | OXFORD | OX13PU | U K |
| SONG | SHANG | UNIV OF SOUTHERN CALIF | CTR FOR LASER STUDIES | LOS ANGELES, CA | 90089 | USA |
| SOURES | JOHN M | UNIVERSITY OF ROCHESTER | LLE 250 EAST RIVER ROAD | ROCHESTER, NY | 14623 | USA |
| SPANO | FRANK C | UNIVERSITY OF ROCHESTER | CHEMISTRY DEPT | ROCHESTER, NY | 14627 | USA |
| SPREEUN | ROBERT J | UNIVERSITY OF LEIDEN | PO BOX 9564 | LEIDEN | 2300RA | NETHERLAND |
| STENHOLM | STIG | RESEARCH INST THEOR PHYS | SILTAVUORENPENGER 20C | HELSINKI | 00170 | FINLAND |
| STEPHAN | GUY | RENNES UNIVERSITE | EMSSAT, 6 RUE DE RENARPO | LANNION | 22305 | FRANCE |
| STOOF | HENK T | EINDHOVEN UNIV OF TECH | PEMELPESTRAAT 169 | EINDHOVEN | | NETHERLAND |
| STROUD | CARLOS | UNIVERSITY OF ROCHESTER | INST OF OPTICS | ROCHESTER, NY | 14627 | USA |
| SUDARSHAN | GEORGE | UNIVERSITY OF TEXAS | | AUSTIN, TEXAS | 78712 | USA |
| SUOMINEN | KALLE A | RESEARCH INST THEOR PHYS | SILTAVUORENPENGER 20C | HELSINKI | 00170 | FINLAND |
| SVANBERG | SUNE | LUND INSTITUTE OF TECH | DEPARTMENT OF PHYSICS | 22100 LUND | 11973 | SWEDEN |
| SWAIN | STUART | QUEENS UNIVERSITY | APPLIED MATHS DEPT | BELFAST | BT7 1NW | NO IRELAND |
| SWANSON | RAND | MONTANA STATE UNIVERSITY | PHYSICS DEPT | BOZEMAN, MT | 59717 | USA |
| SZABO | ALEX | NATL RESEARCH COUNCIL | BLDG N 5. | OTTAWA, ONTARIO | K1A 0R6 | CANADA |
| TANN | CHRISTIAN | TECH BUNDESANSTALT | LAB 4.42 | BRAUNSCHWEIG | D-3300 | FED REP GER |

C006
REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZATION | ADDRESS1 | ADDRESS2 | MAIL CODE | COUNTRY |
|----------------|-----------|--------------------------|--------------------------|-------------------|-----------|--------------|
| TEICH | HALVIN | COLUMBIA UNIVERSITY | DEPT OF ELECTRICAL ENG | NEW YORK, NY | 10027 | USA |
| TER-MIKHAELIAN | MIKHAIL | INSTITUT FOR PHYSICS | ARMENIAN SSR USSR | ASHTAZAK 2 | 00681 | USSR |
| TERVONEN | EERO | HELSINKI UNIV OF TECH | DEPT OF TECHNICAL PHYSI | ESPOO | 02150 | FINLAND |
| TEVARI | SURYA P | UNIVERSITY OF HYDERABAD | SCHOOL OF PHYSICS | HYDERABAD, AP | 500134 | INDIA |
| THOMPSON | RICHARD C | IMPERIAL COLLEGE | BLACKETT LABORATORY | LONDON | EW7 2BZ | UK |
| THOMPSON | JOHN R | GEORGIA TECH | SCHOOL OF PHYSICS | ATLANTA, GA | 30332 | USA |
| THOMPSON | RICHARD | IMPERIAL COLLEGE | BLACKETT, PRINCE CONST R | LONDON, ENGLAND | SW72BZ | UK |
| THOMPSON | ROBERT | CALTECH | 378 S CATALINA, APT 101 | PASADENA, CA | 91106 | USA |
| TOMBESI | PAOLO | | DEPT PHYSICS P.A. WORD 2 | ROME | 00185 | ITALY |
| TOMPKIN | WAYNE | UNIVERSITY OF ROCHESTER | 63 LILAC DRIVE, APT 5 | ROCHESTER, NY | 14620 | USA |
| TOSCHEK | PETER E | UNIVERSITY OF HAMBURG | JUNGENSTRASSE 9 | D-2000 HAMBURG 36 | 60208 | FED REP GERM |
| TREDICCE | JORGE | DREXEL UNIVERSITY | 32ND AND CHESTNUT ST | PHILADELPHI, PA | 19104 | USA |
| TRIPPENBACH | MAREK | UNIVERSITY OF COLORADO | JILA | BOULDER, CO | 80309 | USA |
| TRONBETTA | FABIO | UNIVERSITY OF PALERMO | ISTITUTO DI FISICA | PALERMO | 90123 | ITALY |
| TRONBETTA | FABIO | UNIV OF PALERMO | INST DI FISICA | PALERMO | 90123 | ITALY |
| TUCCI | ROBERT | RIT LINCOLN LABS | PO BOX 73 | LEXINGTON, MA | 02173 | USA |
| UPPAL | J | HERIOT-WATT UNIVERSITY | PHYSICS DEPARTMENT | EDINBURGH | | UK |
| VALEE | REAL | UNIVERSITE LAVAL | PHYSICS DEPARTMENT | STE-FOY | 61K7P4 | CANADA |
| VAN D HEUVELL | HENRICUS | FOM-INSTITUTE | KRUISLAAN 407 | AMSTERDAM | 109857 | NETHERLANDS |
| VANASSE | GEORGE | AIR FORCE GEOPHYSICS LAB | 71 OLD STAGE ROAD | CHELMSFORD, MA | 01824 | USA |
| VANASSE | GEORGE | AIR FORCE GEOPHYSICS LAB | 71 OLD STAGE RD | CHELMSFORD, MA | 01824 | USA |
| VERURI | GAUJAN | GEORGIA TECH | SCHOOL OF PHYSICS | ATLANTA, GA | 30332 | USA |
| VILASECA | RAMON | UNIVERSITAT DE VALENCIA | DEPT OPTICA | BURJASSOT | 46100 | SPAIN |
| VTAS | REETA | UNIVERSITY OF ARKANSAS | PHYSICS DEPT | FAYETTEVILLE, AR | 72701 | |
| WALLS | DANIEL | UNIVERSITY OF AUCKLAND | PHYSICS DEPARTMENT | AUCKLAND | | NEW ZEALAND |
| WALMSLEY | IAN A | UNIVERSITY OF ROCHESTER | THE INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| WALTHER | HERBERT | WPI FUER QUANTUMOPTIK | | GARCHING | 8046 | FED REP GERM |
| WANG | WEIJIAN | UNIVERSITY OF ROCHESTER | 223C COMANT ROAD | ROCHESTER, NY | 14623 | USA |
| WANG | LIJUN | UNIVERSITY OF ROCHESTER | DEPT OF PHYSICS | ROCHESTER, NY | 14627 | USA |
| WEIS | ANTOINE | ETH-HONGGERBERG | INST HIGH ENERGY PHYS | ZURICH | 8095 | SWITZERLAND |
| WEISS | CARL | PHYS TECH BUNDESANSTALT | LAB 4.42 | BRAUNSCHWEIG | D-3300 | FED REP GERM |
| WESTLING | LYNN | SWARTHMORE COLLEGE | | SWARTHMORE, PA | 19081 | USA |
| WHITNEY | KENNETH | NAVAL RESEARCH LAB | 4595G SAHLEE CT | ALEXANDRIA, VA | 22312 | USA |
| WHITTAKER | EDWARD | STEVENS INST OF TECH | DEPARTMENT OF PHYSICS | HOBOKEN, NJ | 07030 | USA |
| WINFUL | HERBERT | UNIVERSITY OF MICHIGAN | EECS DEPT | ANN ARBOR, MI | 48109 | USA |
| WINFUL | HERBERT | UNIVERSITY OF MICHIGAN | EECS DEPT | ANN ARBOR, MI | 48109 | USA |
| WODKIEWICZ | KRZYSZTOF | WARSAW UNIVERSITY | INST THEORETICAL PHYSIC | WARSAW | 00681 | POLAND |
| WOERNAN | HAN | UNIVERSITY OF LEIDEN | PO BOX 9504 | LEIDEN | 2300RA | NETHERLANDS |
| WOLF | EMIL | UNIVERSITY OF ROCHESTER | PHYSICS DEPARTMENT | ROCHESTER, NY | 14627 | USA |
| WONG | FRANCO MC | RIT | ROOM 36-487 | CAMBRIDGE, MA | 02139 | USA |
| WYNNE | KLAAS | UNIVERSITY OF AMSTERDAM | WIEDE ACHTERGRACHT 127 | AMSTERDAM | 1018WS | NETHERLANDS |
| YAMADA | KEIICHI Y | NEW YORK UNIVERSITY | 4 WASHINGTON PLACE | NEW YORK, NY | 10003 | USA |
| YAMAMOTO | YOSHINISA | NTT BASIC RESEARCH LAB | 3-9-11, NIDORICHU | TOKYO | 155 | JAPAN |
| YEAZELL | JOHN A | UNIVERSITY OF ROCHESTER | INSTITUTE OF OPTICS | ROCHESTER, NY | 14627 | USA |
| YUEN | HORACE | NORTHWESTERN UNIVERSITY | 3020 KIESS DRIVE | GLENVIEW, IL | 60025 | USA |
| YURKE | BERNARD | AT&T BELL LABS | 600 MOUNTAIN AVE | MURRAY HILL, NJ | 07974 | USA |
| ZAIDI | HAIDER | UNIV OF NEW BRUNSWICK | UNIV OF NEW BRUNSWICK | FREDERICTON, NB | E3B5A3 | CANADA |
| ZHU | SHI-YAG | UNIVERSITY OF NEW MEXICO | DEPT OF PHYSICS | ALBUQUERQUE, NM | 87131 | USA |
| ZHU | YIFU | UNIVERSITY OF OREGON | DEPARTMENT OF PHYSICS | EUGENE, OR | 97403 | USA |
| ZHU | CHANG | UNIV OF SOUTHERN CALIF | CEN FOR LASER STUDIES | LOS ANGELES, CA | 90089 | USA |
| ZOLLER | PETER | UNIVERSITY OF INNSBRUCK | LOFELERWEG 40 A | INNSBRUCK | 6020 | AUSTRIA |
| ZOL | XINGTU | UNIVERSITY OF ROCHESTER | DEPT OF PHYSICS | ROCHESTER, NY | 14627 | USA |

June 27, 1989

C006
REGISTRATION LIST

| LASTNAME | FIRSTNAME | ORGANIZA | ADDRESS1 | ADDRESS2 | MAIL CODE | COUNTRY |
|----------|-----------|-------------------|----------|-----------|-----------|----------|
| ZUBAIRY | M. SUHAIL | QUAID-I-AZAM UNIV | | ISLAMABAD | 00661 | PAKISTAN |

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